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TECHNICAL APPENDIX A

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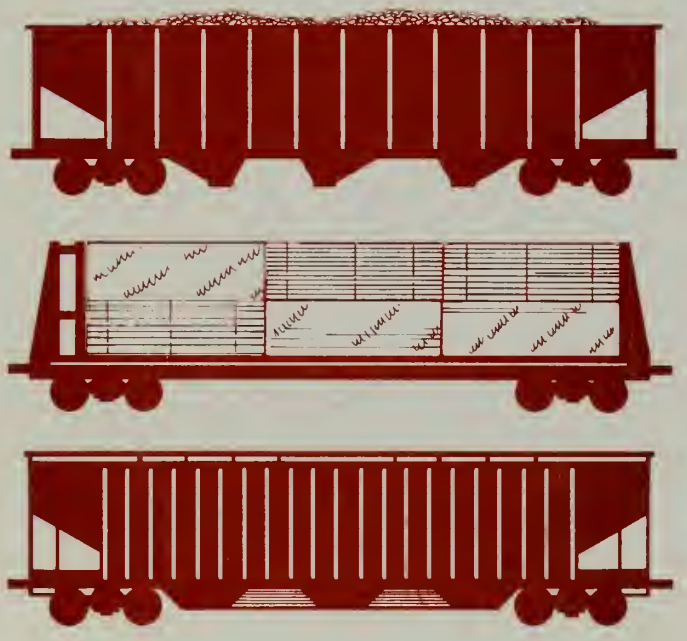

PREPARED BY: RAIL PLANNING UNIT
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TECHNICAL APPENDIX A

M O N T A N A R A I L P L A N

July, 1979

Pursuant to Section 803 of the Railroad
Revitalization and Regulatory Reform Act of 1976

Prepared by:
Rail Planning Unit
Montana Department of Highways
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In Cooperation with
The Federal Railroad Administration
United States Department of Transportation

TECHNICAL APPENDIX A

INDIVIUAL LIGHT DENSITY LINE ASSESSMENTS

LINE INDEX

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Note: The assessment for line 11 was originally prepared for inclusion in the Idaho Rail Plan. Included with the permission of the Idaho Transportation Department.

Line 1 Agawam to Great Falls

This line, which consists of most of the 14th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from the railroad bridge across the Missouri River at Great Falls to Agawam, a distance of approximately 65.6 miles in Cascade and Teton Counties. By application filed November 27, 1978, the Milwaukee Road is seeking authority to abandon a portion of this branch extending from milepost 234.3 near Fairfield to milepost 265.6 near Agawam, a distance of 31.3 miles in Teton County. Consequently, this portion of the line is classified as ICC Systems Diagram Category 3 (pending abandonment). Rail service to shippers located at Choteau will continue to receive Burlington Northern rail service over trackage currently owned and operated jointly by the Burlington Northern and Milwaukee Road between Eastham Jct. and Choteau Jct. (mileposts 244.4 to 251.2). This joint trackage is a portion of the Burlington Northern's Vaughn to Pendroy branchline. The Milwaukee, which has announced its intention to abandon all lines west of Miles City, has recently classified the remainder of the line as ICC System Diagram Category 1 (abandonment anticipated within three years).

LEGEND

Agawam to Great Falls — **Freight Station**

Other Lines — **Other Station**

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1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The eight, rail-oriented firms located along this line reported shipping 1200 and receiving 17 carloads of the following commodities during 1978.1/

Commodity Type		1978 Cars	1978 Tons
Wheat	Outbound	160	10,720
Barley	Outbound	1,040	69,680
Fertilizer	Inbound	12	960
Farm Equipment	Inbound	5	100
Total		1,217	81,460

Of this traffic, 153 carloads were reported as originating or terminating north of Choteau, 355 carloads at Choteau, and 709 carloads at Fairfield.

Milwaukee records indicated that 479 carloads originated or terminated north of Fairfield in 1976, 426 carloads in 1977, and 386 carloads in 1978.2/ This decline in traffic on the northern portion of the line is due largely to the condition of the line and resulting service embargoes plus the car supply and transit reliability problems being experienced by all elevator operators on the Milwaukee system. Department of Agriculture records indicate both a decline in the volume of grain handled at Agawam and a diversion to truck in recent years, especially for wheat shipments to the west coast and interior of Washington and Oregon. A similar decline appears to have occurred at Choteau although the records are not as complete.

The elevators at Fairfield largely handle barley, which is shipped to the west coast (10%), the interior of Washington and Oregon (10%), Minnesota (35%), and locally in Montana (45%). Rail remains the dominant mode although some diversion to truck has apparently occurred in recent years (combination of truck/barge shipments through Lewiston and Central Ferry and backhaul movements by truck). Wheat shipments are largely to the west coast (55%), the interior of Washington and Oregon (35%) and Montana (10%). Again, increasing diversion to truck can be noted from the Department of Agriculture records.

1/ Commodity flow data supplied by the shippers located on this line. The Milwaukee reported originating/terminating 1181 carloads on this line in 1978.

2/ Milwaukee abandonment application AB-7 (Sub No 78F), Exhibit 7, November 27, 1978, (1976 and 1977 traffic data). The difference in traffic between the shippers' survey (508) and Milwaukee records (387) for traffic originating or terminating north of Fairfield may stem from shipper inclusion of some carloads which may have been handled by the Burlington Northern, rather than the Milwaukee.

2. REVENUES AND COSTS OF RAIL SERVICE

Attributable Revenues	Base Year 1/	Projected Subsidy Year Operations 2/
1. Freight Originated and/or Terminated On-Branch	$1,907,884	$2,000,000
2. Bridge Traffic		
3. Demurrage		
4. All Other		
5. Total Revenues Attributable	$1,907,884	$2,000,000
Avoidable Costs		
6. Off-Branch Costs	$1,059,000	$1,144,000
7. On-Branch Costs		
a. Maintenance of Way & Structures	10,000	70,000
b. Maintenance of Equipment	35,000	38,000
c. Traffic		
d. Transportation	101,000	109,000
e. Miscellaneous General		
f. Miscellaneous Operations		
g. Fringe Benefits	20,000	38,000
h. Taxes	1,000	1,000
i. Rent Income		
j. Rent Costs		
k. Bridge Traffic Rerouting		
l. Contingencies		
8. Total Avoidable Costs	$1,226,000	$1,400,000
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 54,000
b. Income Tax Benefits		-
c. Net Liquidation Benefits		
d. Total		$
10. Rate of Return		16.68%
11. Total Return on Value		$
12. Estimated Subsidy Payment (not including rehabilitation)		$

1/ July 1977 through June 1978 scaled upwards to include the full line. See the Milwaukee abandonment application AB-7 (Sub No 78F) Exhibit 8, November 27, 1978.

2/ MDH rough estimate.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Agawam branch, originally constructed in 1917 by a predecessor to the present Milwaukee Railroad, is a single track line with passing sidings at Ashuelot, Fairfield, Choteau, Farmington and Agawam. The maximum gradient is 1.2 percent and the maximum curvature is five degrees. Two sections are owned jointly with the Burlington Northern: (1) between Choteau and Eastham Junctions, the line follows the original Milwaukee trackage (maintained by the Milwaukee) and (2) between Emerson and Dracut Junctions, the line follows the original Great Northern trackage. The line was originally constructed with 65 pound rail although several sections have since been relaid with heavier rail. The Milwaukee considers the rail in worn, but serviceable, condition and joint bars in fair to good condition. Cross-ties are a mixture of about half hardwood and half softwood ties ranging from 30 to 35 years in age. The Milwaukee estimates that about a quarter of the ties will have to be replaced over the next five years. Ballast consists of pit run gravel underlying sod; no surfacing has been accomplished in recent years.[1/] Track line and surface are considered to be from fair to good.

While the Milwaukee timetable shows a maximum speed of 25 mph (implies FRA Track Class 2 conditions), track conditions probably do not permit speeds in excess of 10 mph on portions of the line, particularly the northern end. Maintenance of way expenditures in recent years have been minimal. Extensive rehabilitation is required if service is to be maintained on this line over the long term. The cost of rehabilitating, over a five-year period, the portion of the line north of Fairfield has been estimated by the Milwaukee as follows:[2/]

Description	Unit	Quantity	Unit Cost Material	Unit Cost Labor	1st Year Total Cost
Rail Replacement	Trk Ft	2,750	$ 5.10	$ 2.55	$21,013
Cross-tie Replacement	Each	3,135	13.00	8.50	67,403
Ballast	Cu Yd	2,300	4.30	8.50	29,440
Other Track Material	Lot	1	7000	-	7,000
Align and Surface	Mile	2	-	4500	9,000
Repair Grade Crossings	Foot	100	10.25	8.25	1,850
Bridge & Culvert Work	Lot	1	4500	13,000	17,500
Weed & Brush Control	Mile	31.35	175	95.00	8,464
Misc. Expense[3/]	-	-	-	-	60,923
Total (including 10% for contingencies)					$244,119

1/ The Burlington Northern surfaced the jointly-owned trackage between Emerson and Dracut Junctions in 1963 and the Milwaukee completed two miles of resurfacing between Emerson Junction and Great Falls in 1967.

2/ Milwaukee abandonment application AB-7 (Sub No 78F), Exhibit 5, November 27, 1978. Estimate covers the portion from MP 234.3 to 265.6 (31.3 mi).

3/ Includes store and purchase expenses, transportation of materials, equipment repairs and fuel, payroll additions, risk insurance, and fringe benefits.

Similar rehabilitation costs of $263,649, $284,741, $307,520, and $332,122 have been estimated for 1980 through 1983, thus producing a total rehabilitation estimate of $1,432,151 for 31.3 miles of track ($45,756 per mile). Extending this estimate to cover the entire 57.3 miles of track for which the Milwaukee would logically be responsible, rehabilitation of this line would cost in the order of $2.6 million.

In addition, a physical inspection of two segments between (1) Choteau and Fairfield, and (2) Vaughn and Great Falls was conducted by Railway Technology Services, Inc. for MDH during June, 1979 with quantitative data samples being taken at ten locations and qualitative spot checks at several additional locations to verify the consistency of trackwork and conditions.

The cost of rehabilitating the first segment (owned by the Milwaukee) to fully meet FRA Track Class 1 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	2,506	$ 23.00	$ 57,638
Joint Tightening	miles	17.4	288.00	5,011
Turnout Rehab.-Frogs	each	4	294.00	1,176
Switch Ties	lin ft	768	8.20	6,298
Light Ballast Dump	cu yd	14,459	6.60	95,429
Spot Surfacing & Lining	miles	17.4	991.00	17,243
Spraying	miles	17.4	364	6,334
Total for 17.4 miles				$189,129
Cost per Mile				$ 10,869

The cost of rehabilitating this segment to fully meet FRA Track Class 2 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	5,011	$ 23.00	$115,253
Joint Tightening	miles	17.4	288.00	5,011
Tie Plate Replacement	each	16,036	3.85	61,739
Turnout Rehab.-Frogs	each	4	294.00	1,176
Switch Ties	lin ft	768	8.20	6,298
Full Ballast Dump	cu yd	22,115	6.60	145,959
Surfacing & Lining	miles	17.4	3,172.00	55,193
Spraying	miles	17.4	364.00	6,334
Total for 17.4 miles				$396,963
Cost per Mile				$ 22,814

The total salvage value of the segment was estimated to be $338,391. Pick-up costs were estimated to be $232,655 for a net salvage value of $105,736 ($6,077 per mile).

The cost of rehabilitating the second segment (jointly owned by the Milwaukee and the Burlington Northern and maintained by the latter) to fully meet FRA Track Class 1 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	670	$ 23.00	$ 15,410
Joint Tightening	mile	15.5	288.00	4,464
Turnout Rehab.-Frogs	each	16	294.00	4,704
Switch Ties	lin ft	1,920	8.20	15,744
Light Ballast Dump	cu yd	6,150	6.60	40,490
Spot Tamping	mile	7.4	991.00	7,333
Spraying	mile	7.4	364.00	2,694
Total for 15.5 miles				$ 90,939
Cost per Mile				$ 5,867

The cost of rehabilitating this segment to fully meet FRA Track Class 2 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	1,228	$ 23.00	$ 28,244
Joint Tightening	mile	15.5	288.00	4,464
Turnout Rehab.-Frogs	each	16	294.00	4,704
Switch Ties	lin ft	1,920	8.20	15,744
Light Ballast Dump	cu yd	6,150	6.60	40,590
Spot Tamping	mile	8.1	991.00	8,027
Surfacing & Lining	mile	7.4	3,172.00	23,473
Spraying	mile	15.5	364.00	5,642
Total for 15.5 miles				$130,888
Cost per Mile				$ 8,444

4. FUTURE FREIGHT SERVICE NEEDS

This line serves, in part, one of the more important wheat- and barley-producing areas in Montana (Teton County alone accounted for about eight percent of the barley grown in the state in 1976 and 1977). Unlike wheat, much of which is exported through grain terminals on the west coast, much of the barley is shipped to Minnesota or Wisconsin where it is used for malting purposes. Fairfield accounted for 65 percent of the traffic on this line and Choteau for an additional 21 percent. Less than ten percent of traffic originated or terminated at Agawam.

Thus, the main need is for providing continuing rail service to Fairfield and Choteau. Since the latter station is also served by the Burlington Northern, retention of Milwaukee service at Choteau is unnecessary. Several options exist for providing continuing rail service into Fairfield.

Although some diversion to truck has occurred in recent years (up through 1976, approximately 95 percent of the wheat and barley went by rail whereas in 1979 the amount anticipated to move by rail is roughly 80 percent, assuming continuing rail service), this loss reflects car supply and transit time reliability problems rather than any rate advantages. Elevator operators still prefer rail service over trucks as rail provides better control over the price ultimately received at the grain markets.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received over this line account for 0.27 percent of all traffic originating or terminating in Montana in 1978. Thus the impact of abandonment on the transportation needs of the state is relatively small.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service by the Burlington Northern to Choteau and Fairfield is a highly viable solution, provided that the Milwaukee is willing to sell or transfer its trackage between Eastham Junction and Fairfield to the Burlington Northern.[1/] Based on present traffic demands, reliable service by one carrier is more important than the retention of competitive service. Under such an arrangement, substantial railroad efficiencies and savings can be realized while providing continued rail service to all but one of the substantial users of the rail line. The Burlington Northern will acquire additional revenues to offset additional transportation and maintenance costs, while the Milwaukee will be able to recoup assets tied up in lightly used trackage in need of major rehabilitation.

1/ In addition, the Burlington Northern would have to acquire the Milwaukee's interest in the portions of the line between Eastham and Choteau Junctions and between Vaughn and Emerson Junction. This would permit the abandonment of jointly-owned trackage between Vaughn and Dracut Junction and Milwaukee trackage between Dracut Junction and Fairfield and Choteau Junction and Agawam.

Another possibility is to abandon the line north of Fairfield, as proposed in the Milwaukee's abandonment application. While this option would permit continued service to several small shippers located at Ashuelot, it would necessitate the continued operation of an additional 13 miles of track.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has in the past been served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Great Falls. In 1976 and 1977, 63 and 57 round trips were made on the branchline.1/ Further service reductions to achieve substantial operating economies do not appear to be possible.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

Acquisition and operation of the Eastham Junction-Fairfield segment by the Burlington Northern would strengthen the viability of the railroad's Montana Division-9th Subdivision line (Power to Pendroy). Should this rationalization not come about, then the abandonment or continued operation of the line would have no effect on any other rail carrier.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues do exceed avoidable costs.

1/ No information is available on the number of trips made in 1978, although 17 trips were reported during the first six months of 1978. Portions of the line have been reported as being embargoed (e.g., between Choteau and Agawam and Dracut Junction and Fairfield) for portions of 1978.

By application dated November 27, 1978, the Milwaukee is seeking ICC authority to abandon the line north of Fairfield. Under recent revisions to the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used in subsidizing operations, acquisition, rehabilitation or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is uncertain whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Several scenarios for continued operations were analyzed. The three investment options considered were:

- Retain present rail service without rehabilitation, to the extent that track conditions allow continued operations.
- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.
- Undertake a more extensive one-time rehabilitation to substantially upgrade the track structure so that it could handle fully-laden 100-ton hopper cars.

Three configuration/ownership options were also evaluated:

- Retention of the present line in full by the Milwaukee or successor railroad.
- Retention of the present line between Great Falls and Fairfield by the Milwaukee or successor railroad and abandonment of the portion north of Fairfield and Agawam.
- Sale or transfer of the trackage between Eastham Junction and Fairfield to the Burlington Northern and abandonment of the remaining trackage owned outright by the Milwaukee.

Along with the above investment and ownership options, two traffic scenarios are possible:

- Base year traffic (no traffic growth).

- Base year plus the potential traffic identified in the shippers' survey. This scenario, which conceivably could increase traffic by roughly 20 percent were better rail service available, has not been evaluated for two reasons: (1) better rail service is not a branchline issue per se, and (2) additional traffic simply increases the profitability of the line rather than affecting the conclusions to be reached.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Based on MDH calculations (Milwaukee records were not available for this line), the line appears to return a $155 thousand per year profit with present traffic after including a higher allowance for maintenance, an appropriate return on investment, and amortization of Class 1 rehabilitation costs. (The portion of the line between Great Falls and Fairfield, inclusive, earns $162 thousand per year, whereas the portion between Fairfield and Agawam loses approximately $7 thousand per year.)

While the line appears to be profitable, the general obsolescence and poor physical condition of the track (caused by years of deferred maintenance) tend to rule out any long-term continuation of rail service as provided by the Milwaukee in the past. The line has changed very little from the time it was built in 1917 with 65-pound rail. While track conditions can be improved through extensive tie renewals and ballasting, this still will not permit the use of fully-laden 100-ton hoppers. To achieve this added capability, the rail would have to be replaced with 90- or 100-pound rail. All of this could be done, were the funds available. Extending the figures contained in the Milwaukee abandonment application, MDH has estimated the cost of rehabilitating the entire line at $3.2 million and for upgrading the line at $14.1 million. The latter investment cannot be amortized using present profits or those which could be reasonably expected from more efficient rail operations. The former could, although it is not the most efficient investment possible.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 1 - Agawam to Great Falls

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	78,347	54,356	1,001,549	
Abandon the Portions:				
Great Falls - Fairfield	310	215	3,958	
Fairfield - Choteau	73,891	51,265	944,589	
Choteau - Agawam	4,147	2,877	53,003	
Retain Rail Service				
A. MILW Operation, Great Falls-Fairfield				
w/o Rehab.	(50,182)	(38,684)	(707,023)	3/
Rehab. to Class 1	(39,820)	(30,696)	(561,192)	3/
Rehab. to Class 2	(44,606)	(34,385)	(628,640)	3/
B. MILW Operation, Fairfield-Agawam				
w/o Rehab.	(6,593)	(5,081)	(92,879)	3/
Rehab. to Class 1	1,635	1,260	23,037	2.30
Rehab. to Class 2	7,534	5,807	106,170	0.50
C. BN Operation, Eastham Jct.-Fairfield				
w/o Rehab.	(102,730)	(79,192)	(1,447,764)	3/
Rehab. to Class 1	(100,032)	(77,112)	(1,409,751)	3/
Rehab. to Class 2	(101,333)	(78,115)	(1,428,091)	3/

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 1 - Great Falls to Agawam

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) A	B	C	D [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0	0	0	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0	0	0	0
3. Loss in Local Purchases in Affected Counties	Business Community	0	0	0	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0	0	0	0
5. Unemployment Payments	Employers throughout Montana	0	0	0	0
6. Income Tax Loss	State Government	0	0	0	0
7. Transport Cost Increase [5]	Shippers	-1,002	-4	-945	-53
8. Increased Highway Maintenance & Reconst. Cost	MDH	[4]	[4]	[4]	[4]
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	+561	N.A.	+1,410	-23
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+419	+100	+292	+83

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

[2] Present value over a four-year period. Four segments cover: A-entire line, B-Great Falls (excluded) to Fairfield (excluded), C-Fairfield to Choleau (Milw. Shippers only), and D-Choleau (excluded) to Agawam.

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

Would terminating the line north of Fairfield be a more cost-efficient solution? Reworking the figures contained in the Milwaukee abandonment application, MDH estimates the cost of rehabilitating this portion of the line at $ 1.2 million and for upgrading to handle fully-laden 100-ton hoppers at $6.4 million, less than half the cost of rehabilitating or upgrading the entire line. If the Milwaukee or successor railroad elects to continue to operate into Great Falls, then continuation of that line to Fairfield is warranted.

However, the most cost-effective solution is Burlington Northern takeover of the portion of the line between Eastham Junction and south of Fairfield. Again, reworking the figures contained in the Milwaukee abandonment application, MDH estimates the cost of upgrading this portion of the line at $0.49 million and for upgrading to handle fully-laden 100-ton hoppers at $2.64 million. MDH estimates that operation of this segment by the Burlington Northern would produce an annual profit of approximately $407 thousand under the same conditions (continued Milwaukee operation).

The cost of discontinuing rail service (community impacts) for the entire line amounts to approximately $403 thousand annually and is comprised solely of increases in transport costs. (The cost of discontinuing rail service between Fairfield and Choteau is approximately $398 thousand per year, thus accounting for 99 percent of potential abandonment impacts). These estimates are based on the use of nearby elevators in place of those no longer receiving rail service. Were trucks to be used to transport grain all-the-way to its ultimate destination (or a river port for continuing movement by barge), the cost of discontinuing rail service is estimated at $175 thousand annually for the entire line and $148 thousand annually for the portion between Fairfield and Choteau.

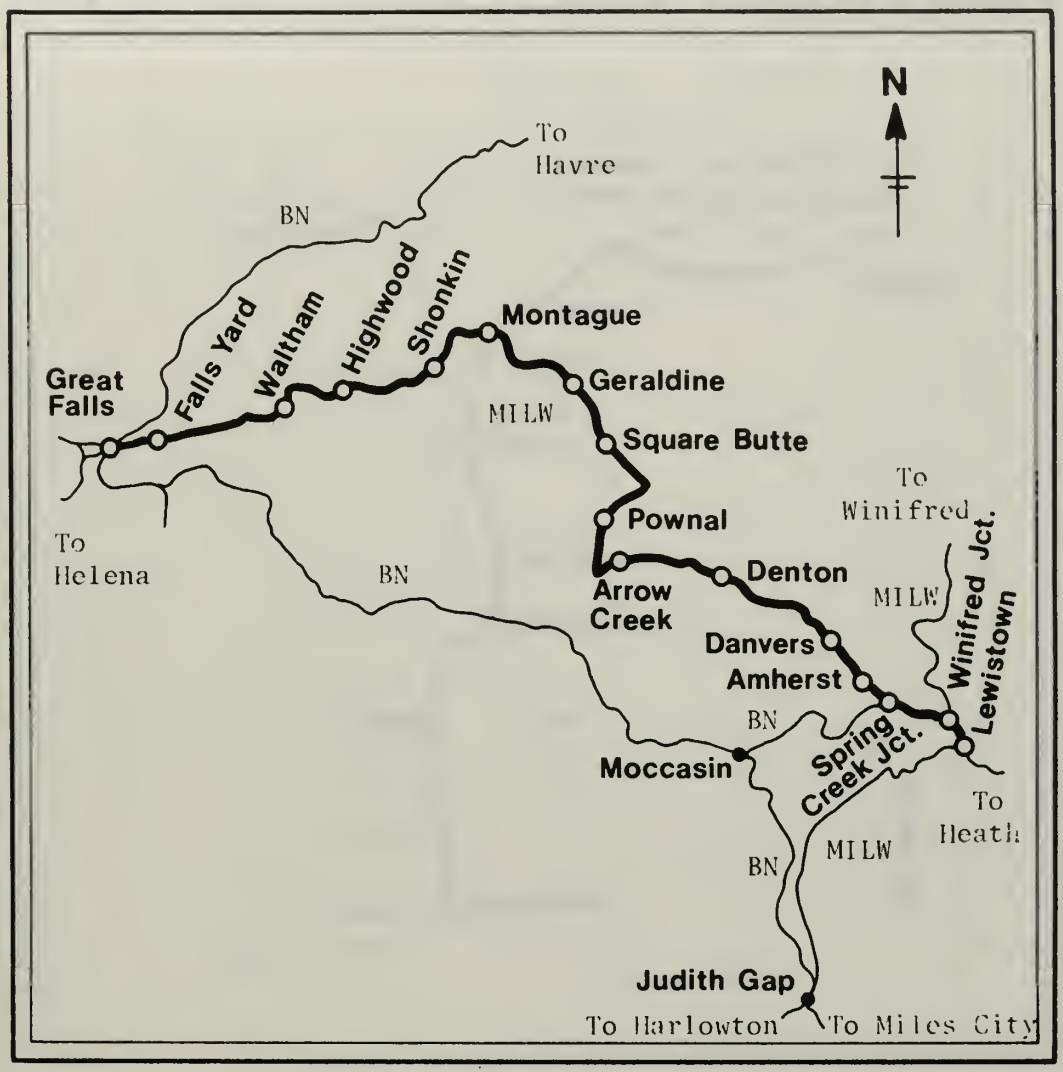
No economic basis presently exists for the abandonment of this line (except the portion between Choteau and Agawam) although the Department anticipates that such an abandonment application will shortly be filed by the Milwaukee as part of its reorganization efforts. Since the line between Great Falls and Fairfield or Fairfield and Choteau appears profitable, the Department will seek the continuation of rail service for shippers located at Fairfield and Choteau. Which segment is retained depends upon whether the Milwaukee remains in business, either in its present form or as some type of successor railroad in the northwest. If this happens, then retention of the trackage between Vaughn and Fairfield would be practical. Otherwise, the segment between Fairfield and Eastham Junction should be sold to the Burlington Northern.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision to oppose abandonment of rail service at Choteau and Fairfield is based on the following criteria given in the revised Montana Planning Work Statement, dated June 1979.

- Retention of the 10.7 mile line required to service Fairfield does have potential economic viability. (Rail service is already provided at Choteau.)
- The economic impacts of the loss of rail service at these two Milwaukee stations are substantial.
- Significant community impacts would result from abandonment.
- Alternate modes are not readily available.
- Rail system consolidation is a practical solution, in this instance.

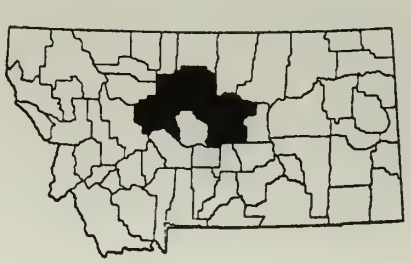
Line 2 Great Falls to Lewistown



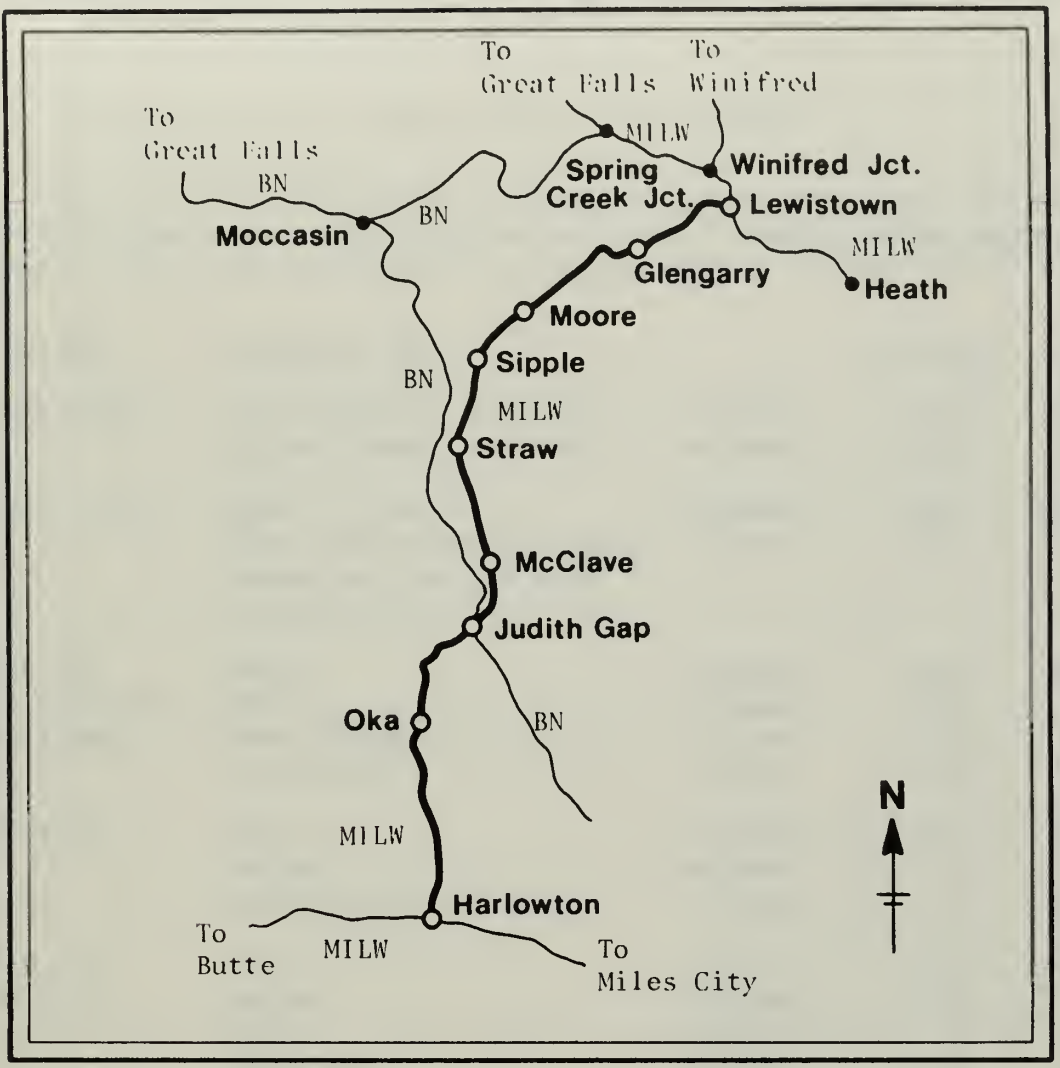
This line, which consists of most of the 13th Subdivision, and a small portion of the 14th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from Lewistown to the railroad bridge across the Missouri River at Great Falls, a distance of approximately 138.1 miles in Cascade, Choteau, and Fergus Counties. The line has recently been classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Great Falls to Lewistown**
- **Other Lines**
- **Freight Station**
- **Other Station**



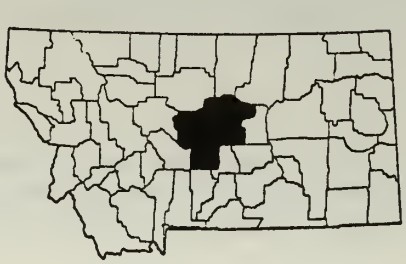
Line 3 Lewistown to Harlowton



This line, which consists of the 10th Subdivision, and a small portion of the 13th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from Harlowton (on the Milwaukee's 4th Subdivision Main Line) to Lewistown, a distance of approximately 62.3 miles in Fergus, Judith Basin, and Wheatland Counties. This line has recently been classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Lewistown to Harlowton**
- **Other Lines**
- **Freight Station**
- **Other Station**



Note: Because of the strong interrelationship between Lines 2 and 3, the assessments for these two lines have been combined together. Also involved to a lesser extent is Line 5 (Lewistown to Heath) and Line 6 (Moccasin to Lewistown).

1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The 76 rail-oriented firms located along the 10th, 13th, and the portion of the 14th Subdivision in Great Falls reported shipping approximately 7200 carloads of the following commodities during 1978.[1/]

Segment	Commodity Type		Carloads	Tons[2/]
Black Eagle	Copper Shapes, Products	Inbound	Approx.	50,500
	Copper Shapes, Products	Outbound	1000	56,700
Great Falls	Wheat, Flour, etc.	Outbound	2147	143,800
	Food stuffs, manufactured products, farm and bldg. supplies, etc.	Inbound	729	36,000
13th Subdivision (less Lewistown)	Wheat	Outbound	1376	92,200
	Barley	Outbound	603	
	Farm Implements	Inbound	20	400
	Fertilizer	Inbound	43	3,400
Lewistown	Wheat	Outbound	488	32,700
	Bricks	Outbound	8	500
	Manufactured Products	Inbound	27	1,600
10th Subdivision	Wheat	Outbound	554	37,100
	Barley	Outbound	66	4,400
	Feed	Inbound	5	400
	Fertilizer	Inbound	40	3,200
	Machinery	Inbound	7	200
	Coal	Inbound	2	200
Totals			7,244	503,700

Worksheet I summarizes line and shipper characteristics. Outside of Great Falls and Lewistown, major shippers are public grain warehouses. Within Great Falls and Lewistown, the major shippers are again public grain warehouses although a large variety of other firms also use rail service to varying degrees. Many shippers in Great Falls and Lewistown also receive Burlington Northern rail service either through reciprocal switching or use of public team tracks. The line accounts for approximately 30 percent of the Milwaukee's originating and terminating traffic in Montana.

1/ Commodity flow data basically supplied by shippers located on line. Some adjustments necessary to separate between Milwaukee and Burlington Northern shipments and receipts at Black Eagle, Great Falls, and Lewistown.

2/ Estimated.

The major commodities served by this line are wheat and barley. Nearly all of the wheat traffic is destined to Oregon or Washington for export purposes. On the other hand, roughly two-thirds of the barley is sold as malting barley and the remainder for feed purposes. The main malting barley markets are in Minnesota and Wisconsin, with smaller amounts destined to Washington and Missouri. Feed barley is shipped primarily to Oregon and Washington. Most of the fertilizer originates in Canada (Saskatchewan), Washington or Idaho. Agricultural equipment comes from Ontario, Illinois, Tennessee, and Iowa.

The next most important commodity are the copper shapes and products originating or terminating at the smelter just outside of Great Falls. Inbound traffic generally originates at Butte or other copper mines in the west. Outbound traffic is destined to 21 states generally located in the east and south. Both the Milwaukee and the Burlington Northern share in this traffic with the Milwaukee receiving about one-quarter of the total traffic to and from Black Eagle.

Another important factor is the distribution of traffic along this line, which is summarized below:

Segment	Percent Originating or Terminating	Comments
Black Eagle	16	Station also served by Burlington Northern.
Great Falls	40	Already partially served by Burlington Northern, or could be served by takeover of 4 ± miles of Milwaukee trackage in Great Falls.
13th Subdivision (less Lewistown)	28	Traffic originates/terminates as follows: Denton 10% Geraldine 9% Highwood 4% Danvers, Coffee Creek, Square Butte, Shonkin, and Waltham - about 1% each.
Lewistown	7	Could be readily served by Burlington Northern.
10th Subdivision	9	Of the amount shown, 6% originates/terminates at Moore.

Thus, nearly two-thirds of the existing traffic could be served via Burlington Northern takeover of Milwaukee lines in Great Falls and Lewistown.

How stable are present grain movements, which account for the vast majority of traffic on this line? MDH has carefully examined Montana Department of Agriculture data on shipments made by 13 different grain public warehouses located on the line outside of Great Falls between January, 1976 and April, 1979. The results, shown on the following page, indicate that rather substantial changes are taking place in the marketing of grain and the resulting modal distribution. Both changes are highly interrelated and are considered to stem more from car supply and transit time reliability problems, rather than from transport cost differences.1/

For years, rail has been the dominant mode in moving wheat to traditional markets -- the west coast (export grain), the interior of Washington and Oregon (both export and domestic), and internally in Montana. Up through 1978, rail has been able to retain its 90 percent share of the traffic (variations reflect the size of the harvest and the use of motor carriers as backup to rail transport). During the first four months of 1979, substantial quantities of export grain apparently were diverted to truck/barge through Lewiston, Idaho. However, 1979 represented one of the most difficult winters for rail operations in memory, with all carriers being plagued by car and motive power shortages, and other difficulties playing havoc with rail service. Thus, such diversion may be simply a passing phenomenon, assuming that the carriers have been able to restore service to levels enjoyed in previous years.

Rail has not been quite as dominant in transporting barley (barley accounts for 23 to 28 percent of the total grain traffic). In addition, the markets are quite different. Until recently, the principal markets have been the Pacific north coast, the interior of Oregon and Washington, Minneapolis/St. Paul, and Montana, in which rail captured 90 percent of the transport business. During the last two years, a marked shift in markets has occured to Idaho, California, and Utah, all of which are primarily served by truck. Even within traditional markets, the proportion moving by rail has declined considerably. Consequently, rail's share dropped from 83 percent in 1976 to less than half in 1978. Besides declining rail service, some of the shifts taking place stem from whether the barley can be sold as malting barley, (brings a higher price than barley used for feed purposes) and the increasing use of motor carrier backhaul movements in transporting agricultural products. Distance seems to be no limit; frequent movements by truck were noted to Minneapolis/St. Paul (presumably malting barley for use in manufacturing beer). Recent history suggests that rail's traditional proportion of the barley market may continue to erode as the barley markets become even more dispersed. Eventually, these marketing and modal distribution patterns should stabilize, however.

1/ Present truck rates average 3 to 3 1/2 ¢/bu under rail tariffs (rail and truck/barge rates to the Pacific north coast are nearly identical).

Volume and Distribution by Major Markets - Wheat
(thousands of bushels)

Year	PNC Vol.	PNC %	Int. OR/WA Vol.	Int. OR/WA %	Idaho Vol.	Idaho %	Montana Vol.	Montana %	Other Vol.	Other %	Total
1976	2612	68	586	15	335	9	303	8	13	-	3849
1977	1501	61	537	22	21	1	294	12	106	4	2459
1978	2079	59	991	28	156	4	131	4	158	4	3515
1979 (4 mo)	455	44	289	28	195	19	35	3	60	6	1034

Volume and Distribution by Major Markets - Barley
(thousands of bushels)

Year	PNC Vol.	PNC %	Int. OR/WA Vol.	Int. OR/WA %	MSP Vol.	MSP %	Montana Vol.	Montana %	Other Vol.	Other %	Total
1976	243	16	304	20	265	17	495	32	292	18	1599
1977	336	36	119	13	113	12	102	11	252	27	922
1978	54	5	251	24	93	9	164	15	503	47	1065
1979 (4 mo)	25	8	59	19	77	25	40	13	103	34	304

Modal Distribution by Major Market
(Percent transported by rail)

Year	Wheat PNC	Wheat OR/WA	Wheat ID	Wheat MT	Wheat All	Barley PNC	Barley OR/WA	Barley MSP	Barley MI	Barley Other	Barley All
1976	99	93	1	96	89	90	90	100	86	4	83
1977	97	87	0	98	92	98	92	88	98	9	77
1978	96	91	1	81	87	87	75	67	63	15	47
1979 (4 mo)	90	80	0	9	64	100	100	55	60	10	57

Notes:

Information shown based on shipments made by 13 grain public warehouses located along this line (outside of Great Falls). Source: Montana Department of Agriculture.

PNC - Pacific North Coast (grain being exported through OR/WA ports).
Int. OR/WA - Interior of Washington and Oregon (both domestic and export grain).
Idaho - Primarily truck shipments made to the Port of Lewistown (export grain).
MSP - Minneapolis/St. Paul and other destinations in Minnesota (malting barley).
Other (barley) - Primarily Idaho, California and Utah (order of importance).

2. REVENUES AND COSTS OF RAIL SERVICE[1/]

Alternative	Revenue	Off-Branch Costs	On-Branch Costs	Return on Value	Estimated Surplus
A. MILW Operation Harlowton-Great Falls	$10,523	$5,277	$2,684	$ 469	$ 2,093
B. MILW Operation Harlowton-Highwood	6,084	3,112	1,381	400	1,191
C. MILW Operation Harlowton-Geraldine	5,323	2,686	1,182	347	1,112
D. MILW Operation Harlowton-Denton	3,902	1,888	882	277	855
E. MILW Operation Harlowton-Lewistown	2,270	974	544	217	535
F. BN Operation Great Falls-Highwood	761	426	199	11[2/]	125
G. BN Operation Great Falls-Square Butte	2,247	1,258	644	12[2/]	333
H. BN Operation Great Falls-Denton	3,861	2,162	1,017	19[2/]	663
I. BN Operation Moccasin-Geraldine	4,295	2,258	1,313	89[2/]	633
J. BN Operation Moccasin-Denton	2,868	1,460	852	83[2/]	373
K. BN Operation Moccasin-Lewistown	1,236	546	570	75[2/]	45
L. BN Operation New Connection-Geraldine	5,031	2,549	1,369	143[2/]	970
M. BN Operation New Connection-Denton	3,606	1,751	1,008	136[2/]	711
N. BN Operation New Connection-Lewistown	1,974	837	626	100	381

1/ Based on Track Class 1 operation. BN operation includes both BN and MILW traffic; MILW operation excludes BN traffic. Also excluded is Heath and Winifred traffic.

2/ Assumes lease of Milwaukee trackage between Great Falls and Lewistown.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 10th and 13th Subdivisions, originally constructed in 1912-13 by a predecessor to the present Milwaukee Railroad, is a single track line with passing sidings at Oka, Judith Gap, Garneill, Straw, Glengarry, Hanover, Amherst, Danvers, Denton, Arrow Creek, Pownal, Square Butte, Geraldine, Montague, Shonkin, Highwood and Waltham and local yards at Lewistown and Great Falls. Connections with the Burlington Northern exist at Judith Gap, Lewistown, and Great Falls. The maximum gradient is 1.5 percent in the vicinity of Arrow Creek and the maximum curvature is eight degrees. One section between Spring Creek Junction and Lewistown (9.2 miles) is jointly owned and operated with the Burlington Northern with the track maintained by the Milwaukee. The line was originally constructed with 75-pound rail although a number of sections, particularly south of Lewistown, have since been relaid with 85-, 90- or 100-pound rail. The maximum allowable timetable speeds are 40 mph on the 10th Subdivision and 35 mph on the 13th Subdivision, although slow orders due to track conditions limit speeds generally to 10 or 25 mph.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June, 1979 with quantitative data samples being taken at 25 locations and qualitative spot checks at numerous additional locations to verify the consistency of track work and conditions. The line was found to be in poor to fair condition with the major deficiencies being the need for tie renewals and ballasting.[1/]

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	42,725	$ 23.00	$982,675
Joint Tightening	miles	194.3	288.00	55,958
Replace Joint Bars	prs	180	40.50	7,290
Turnout Rehab.-Frogs	each	86	294.00	44,394
Switch Ties	lin ft	14,580	8.20	119,556
Light Ballast Dump	cu yd	72,297	6.60	477,160
Spot Tamping	mile	122.4	991.00	121,298
Spraying	mile	100	364.00	36,400
Embankment Work	cu yd	40,000	1.10	44,000
Total for 194.3 miles				$1,888,731
Cost per Mile				$ 9,720

Component rehabilitation costs are $1,307,436 for the section between Great Falls and Lewistown, $478,633 for Lewistown to Judith Gap, and $102,664 for Judith Gap to Harlowton.

1/ For a more complete report on observed conditions, see pages 18-28 and 38-37 of the "Consultant's Report" dated June, 1979 prepared by Railway Technology Services, Inc. for RCAI. This report also describes the method of inspection and the manner in which rehabilitation, maintenance, and salvage value estimates have been prepared.

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	75,851	$ 23.00	$1,744,573
Joint Tightening	mile	194.3	288.00	55,958
Replace Joint Bars	prs	180	40.50	7,290
Turnout Rehab.-Frogs	each	86	294.00	44,394
Switch Ties	lin ft	14,580	8.20	119,556
Light Ballast Dump	cu yd	98,894	6.60	652,700
Full Ballast Dump	cu yd	45,756	6.60	301,990
Spot Tamping	mile	30	991.00	29,730
Surfacing & Lining	mile	164.4	3,172.00	521,477
Spraying	mile	110	364.00	40,040
Embankment Work	cu yd	40,000	1.10	44,000
Total for 194.3 miles				$3,561,708
Cost per Mile				$ 18,331

Component rehabilitation costs are $2,399,607 for the section between Great Falls and Lewistown, $922,065 for Lewistown to Judith Gap, and $240,036 for Judith Gap to Harlowton.

No cost estimate has been developed for rehabilitating the Spring Creek trestle. The physical inspection conducted by Railway Technology Services, Inc. did not reveal any obvious deficiencies that would necessitate the need for major rehabilitation, as indicated by the owning railroad. This situation will be investigated further during Phase III of the Montana Rail Study, however.

The total salvage value of the line was estimated to be $5,214,523. Pick-up costs were estimated to be $2,675,706 for a net salvage value of $2,538,817.

Several of the alternatives evaluated involve the construction of a new connection roughly one mile in length from the Burlington Northern's 5th Subdivision mainline approximately three miles north of Buffalo to the Milwaukee's 10th Subdivision approximately 13 miles north of Judith Gap. The cost of this connection is estimated as follows:

Description	Unit	Quantity	Unit Price	Cost
Right-of-Way	acre	15	$ 1,000	$ 15,000
Grading (5 ft. fill)	cu. yd.	30,000	1.50	45,000
Bridge Across Ross Fork Crk.	each	1	25,000	25,000
Turnouts	each	2	12,000	24,000
Track	trk. ft.	5,200	35.00	132,000
Signs, Markers				1,000
				$292,000
Engineering, Contingencies				100,000
Total			say	$400,000

4. FUTURE FREIGHT SERVICE NEEDS

This line serves, in part, one of the most important wheat- and barley-producing areas of the state (Cascade, Choteau, Fergus and Judith Basin Counties accounted for over 20 percent of the wheat grown in Montana in 1976 and 1977 and 24 percent of the barley grown in 1977. Choteau County alone produced nearly 12 percent of the wheat grown in the state during this recent two-year period).

Approximately 18 grain public warehouses are located along this line having an aggregate capacity of around four million bushels. The largest warehouses are located at Great Falls, Denton, Lewistown and Harlowton. While the importance of these storage facilities has perhaps decreased somewhat in recent years with the growth of on-farm storage, they still handle the vast majority of grain movements. While rail traffic has decreased somewhat in recent years, the production of wheat and barley has remained at traditional levels, weather conditions permitting.

Since late 1977, the rail proportion of grain movements has dropped significantly. This change has been attributed to car shortages and unreliable transit times. Has this traffic been lost permanently? Montana Department of Agriculture officials feel that much of this business would come back to rail, were the service improved. Whether this will come about depends upon the attitude of the carriers and their desire to stay in the grain hauling business. While trucks presently enjoy a five cents per hundred weight (or 3 to 3 1/2 cents per bushel) rate advantage, various problems associated with shrinkage and product quality at the destination for movement by truck tend to negate the slightly lower rates. Elevator operators prefer rail. Truck transport of grain is considered marginal, with low profit margins caused in part by escalating fuel prices. Truck rates are set on the basis of rail rates. Were competitive rail service not available, then truck rates would undoubtedly rise to a point where an adequate return could be achieved by the various independents competing for the business. Some of the grain would probably bypass elevators no longer receiving rail service and be handled by facilities in Great Falls or Lewistown. The remainder would probably continue to be marketed by traditional elevators using trucking all-the-way to final destinations or to intermediate river ports. Over the long haul, it is doubtful that these elevators can remain competitive with those retaining rail service.

Were rail service discontinued, a concommitant requirement would be sufficient intramodal competition so as to insure maintenance of reasonable and stable rates to the farmer and/or grain dealer. Since the trucking would most likely be provided by individual owner/operators whose rates are unregulated, protection would depend solely on the presence of sufficient competition. Whether this course of events is truly in Montana's long term interest needs to be carefully considered. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economies and energy dependency, there is no guarantee that area interests will be best served over the long-term by total dependence upon motor carrier transport.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on these two lines account for 1.3 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would not be inconsequential. Initial economic, environmental and transportation impacts are shown on Worksheet II.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Rail alternatives consist of takeover of all or portions of the 10th and 13th Subdivisions by the Burlington Northern or continued operation by the Milwaukee or its successor. While feasible, operation of the line by another carrier has not been considered, largely because of the unlikelihood of such an operation. Non-rail alternatives consist of (1) trucking all-the-way to the ultimate destination or intermediate river ports (e.g., Lewiston, Central Ferry), (2) local trucking to remaining public grain warehouses for further shipment via rail, and (3) a combination of the two.

The impact on shippers of substituting alternate rail service depends more upon service and car supply rather than on the carrier per se. If improvements can be made over that provided by the Milwaukee in recent years, then the change will be beneficial. Less-than-full-retention of the line may cause a few smaller shippers to lose rail service, and thus incur increased transport costs and possibly curtailment/relocation of operations. Transit times to west coast grain markets will improve to the extent that loaded grain cars move westbound on the 13th Subdivision through Great Falls rather than through Lewistown and Harlowton.

The impact on shippers of substituting truck, truck/rail, or truck/water service would most likely be somewhat increased transport costs. Service problems associated with the availability of trucking might also occur until such time as the supply of vehicles increases to match the demand. Such problems depend upon the degree to which abandonment occurs (the entire line versus one or two isolated stations).

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has in the past been served six days per week by one or two locomotives (GP-9's) and four-man local crews operating out of Lewistown.1/ Further service reductions to achieve substantial operating economies do not appear to be possible with present traffic.

1/ No information is available on the number of trips made in 1978.

Consolidation of Burlington and Milwaukee train operations in Lewistown does appear feasible. See Section 11. Under the various consolidation proposals, Milwaukee shippers at Great Falls would probably receive daily service. Service to remaining shippers along the 10th and 13th Subdivisions could be limited to two- or three-day-a-week service.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

Acquisition and operation of portions of the 10th and 13th Subdivisions by the Burlington Northern should strengthen the viability of that railroad's operations in central Montana.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues do exceed avoidable costs by a substantial amount.

No final decision has been made by the Milwaukee as to whether to seek the abandonment of this line, although the Trustee has announced his intention to abandon all lines west of Miles City. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

No final decision has been made by MDH whether to seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

A total of 14 scenarios for the continued operation of all or portions of Lines 2 and 3 have been evaluated. These are further expanded by several investment options. Ownership and configuration possibilities are identified below:

- Continued operation by the Milwaukee or its successor of all or a portion of its line between Harlowton and Great Falls. One option would be to operate the line as it now exists. A second option would be to retain service as far as Geraldine, transferring the trackage in Great Falls to the Burlington Northern and eliminating operations over a section of track having a long history of soil stability problems. A third option would be to terminate the line at Denton, thus eliminating operations over Arrow Creek. A fourth option would be to terminate the line just north of Lewistown, thus eliminating the need to retain the Spring Creek trestle. The latter assumes Burlington Northern abandonment of its Moccasin to Lewistown line (Milwaukee providing continuing rail service to Burlington Northern customers in Lewistown).

- Burlington Northern takeover of portions of the Milwaukee's 13th Subdivision, using the BN's Moccasin to Lewistown line for access to the southern end of the line. One option would be to operate east out of Great Falls to Highwood and west out of Lewistown to Geraldine.1/ A second option would be to operate east out of Great Falls to Geraldine and west out of Lewistown to Denton.2/ A third option would be to operate east out of Great Falls to Denton and west out of Lewistown only as far as Spring Creek Junction.3/ Also includes the Milwaukee's Lewistown area traffic and the traffic generated on the Milwaukee's Lewistown to Heath Line.4/

- Burlington Northern takeover of portions of the Milwaukee's 13th Subdivision, as described above, using the Milwaukee's 10th Subdivision line from Judith Gap north for access into Lewistown. This will permit the abandonment of the BN's Moccasin to Lewistown line and the remainder of the Milwaukee's 13th Subdivision. Also includes Milwaukee traffic originating and terminating at Moore and Garneill in addition to that identified previously.

1/ A further possibility, not evaluated, would be to extend service out of Great Falls to Shonkin, (rather than Highwood).

2/ A further possibility, not evaluated, would be to extend service out of Great Falls to Square Butte (rather than Geraldine) and west out of Lewistown to Coffee Creek (rather than Denton).

3/ A further possibility, not evaluated, would be to extend service out of Great Falls to Danvers (rather than Denton).

4/ Traffic from the Milwaukee's Lewistown to Winifred line has not been included.

- Burlington Northern takeover of portions of the Milwaukee's 13th Subdivision, as described previously, using a portion of the Milwaukee's 10th Subdivision line for access into Lewistown. A new connection roughly one mile in length would be constructed from the BN's 5th Subdivision mainline approximately three miles north of Buffalo to the Milwaukee's 10th Subdivision approximately 13 miles north of Judith Gap. This will permit the abandonment of the BN's Moccasin to Lewistown line and the remainder of the Milwaukee's 13th Subdivision. Also includes Milwaukee traffic originating and terminating at Moore in addition to that identified previously.

The three investment options considered are as follows:

- Retain present rail service without rehabilitation.

- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.

- Undertake a similar one-time rehabilitation to improve track structure such that it will fully meet FRA Track Class 2 standards for at least five years.

Along with the above ownership, configuration, and investment options, two traffic scenarios were also evaluated:

- Base year traffic (no traffic growth).

- Base year plus the potential traffic identified in the shippers' survey.

Two options not considered in this initial study are:[1/]

- Undertake a far more extensive one-time rehabilitation to substantially upgrade the track structure so that it could readily handle fully-laden 100-ton hopper cars. Involves replacing present 75-pound rail with 90-pound or heavier rail.

- Construct in the general Lewistown area, a grain subterminal to allow for the use of unit grain trains. Grain shipments presently made by rail from county elevators along the 10th and 13th Subdivisions would instead be trucked to the centralized facility where it would be loaded into 100-ton hoppers. Shipments would be made in 50-car units, rather than by single cars as at present. Such a subterminal would eventually permit the retirement of most of the 10th and 13th Subdivisions.[2/]

1/ Follow-up evaluation of these two possibilities is proposed for Phase III of the Montana Rail Study.

2/ Retention of Milwaukee trackage in Great Falls and the 10th Subdivision into Lewistown would be necessary to provide continuing rail service to existing shippers or consignees.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Financial analysis of this line by MDH indicates profitability under most of the ownership, configuration, investment and traffic scenarios investigated. Profitability would increase were the line rehabilitated. Thus, no economic basis presently exists for abandonment although the MDH expects such a request by the Milwaukee as part of its reorganization efforts.

The two major problems facing any future operator of this line are (a) the obsolescence of the physical plant and (b) the apparent traffic erosion which results from car availability and unreliable transit times. Simply retaining the present rail trackage and continuing business as usual is insufficient; whoever operates the line must attack and solve the fundamental problems affecting the quality of the service being offered, thus stemming and revising the diversion taking place in the last two to three years. Otherwise, the long-term viability of this grain line cannot be assured.

Basically, there are four alternatives:

1. Allow abandonment to take place, thus forcing all grain to move by truck either to nearby grain public warehouses in Great Falls and Fort Benton, to river ports such as Lewiston and Central Ferry, or be trucked all-the-way to west coast or midwest destinations. The impact of line abandonment on primary and secondary roads in Choteau, Judith Basin, and Fergus Counties is presently being studied by the MDH; at this time the severity of the expected impact is unknown although calculations made for US 191 and State 236 (which parallel the Lewistown to Winifred line) indicate a reduction in design life of 44 percent for the

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 2/3 - Great Falls to Lewistown to Harlowton

Alternative		Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	Line 2	235,193	148,869	2,801,463	
	Line 3	119,308	73,503	1,392,033	
Abandon the Portions:					
Great Falls - Highwood		6,926	3,900	75,554	
Highwood - Geraldine		4,942	3,429	63,180	
Square Butte - Denton		0	0	0	
Denton - Lewistown		9,232	6,405	118,021	
Judith Gap - Harlowton		34,696	24,041	442,966	
Retain Rail Service					
A. MILW Operation, Harlowton-Great Falls (Existing. Includes Great Falls)[4/]					
w/o Rehab.		(526,356)	(405,755)	(7,417,895)	3/
Rehab. to Class 1		(467,685)	(360,527)	(6,591,041)	3/
Rehab. to Class 2		(555,942)	(428,563)	(7,834,843)	3/
B. MILW Operation, Lewistown-Highwood					
w/o Rehab.		(16,430)	(12,666)	(231,559)	3/
Rehab. to Class 1		27,035	20,841	380,999	6.31
Rehab. to Class 2		14,366	11,074	202,459	11.87
C. MILW Operation, Lewistown-Geraldine (plus Alternative E)					
w/o Rehab.		(141,677)	(109,208)	(1,996,522)	3/
Rehab. to Class 1		(123,819)	(95,449)	(1,744,982)	3/
Rehab. to Class 2		(124,112)	(95,675)	(1,749,101)	3/
D. MILW Operation, Lewistown-Denton (plus Alternative E)					
w/o Rehab.		(81,026)	(62,461)	(1,141,894)	3/
Rehab. to Class 1		(72,725)	(56,062)	(1,024,916)	3/
Rehab. to Class 2		(79,467)	(61,259)	(1,119,927)	3/
E. MILW Operation, Harlowton-Lewistown (present MILW Traffic)					
w/o Rehab.		(134,636)	(103,788)	(1,897,423)	3/
Rehab. to Class 1		(131,570)	(101,424)	(1,854,209)	3/
Rehab. to Class 2		(124,077)	(95,648)	(1,748,616)	3/

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 2/3 - Great Falls to Lewistown to Harlowton (Cont'd)

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Retain Rail Service (No Traffic Growth)				
F. BN Operation, Great Falls-Highwood (See Alternatives I through N)				
w/o Rehab.	(30,630)	(23,613)	(431,688)	3/
Rehab. to Class 1	(24,129)	(18,601)	(340,067)	3/
Rehab. to Class 2	(21,207)	(16,347)	(298,875)	3/
G. BN Operation, Great Falls-Square Butte (See Alternatives I through N)				
w/o Rehab.	(81,680)	(62,965)	(1,151,112)	3/
Rehab. to Class 1	(65,894)	(50,796)	(928,648)	3/
Rehab. to Class 2	(68,571)	(52,860)	(966,384)	3/
H. BN Operation, Great Falls-Denton (See Alternatives I through N)				
w/o Rehab.	(166,021)	(127,981)	(2,339,718)	3/
Rehab. to Class 1	(138,988)	(107,142)	(1,958,751)	3/
Rehab. to Class 2	(153,946)	(118,673)	(2,169,556)	3/
I. BN Operation, Lewistown-Highwood (plus Alternatives L, M, or N)				
w/o Rehab.	(45,491)	(35,069)	(641,106)	3/
Rehab. to Class 1	(2,026)	(1,562)	(28,548)	3/
Rehab. to Class 2	(26,245)	(20,231)	(369,874)	3/
J. BN Operation, Lewistown-Geraldine (plus Alternatives L, M, or N)				
w/o Rehab.	(144,466)	(111,365)	(2,035,953)	3/
Rehab. to Class 1	(126,617)	(97,606)	(1,784,413)	3/
Rehab. to Class 2	(133,052)	(102,566)	(1,875,092)	3/
K. BN Operation, Lewistown-Denton (plus Alternatives L, M, or N)				
w/o Rehab.	(80,778)	(62,270)	(1,138,407)	3/
Rehab. to Class 1	(72,477)	(55,871)	(1,021,429)	3/
Rehab. to Class 2	(83,587)	(64,435)	(1,177,991)	3/
L. BN Operation, Moccasin-Lewistown (plus Alternatives I or J)				
w/o Rehab.	(11,835)	(9,122)	(166,794)	3/
Rehab. to Class 1	(4,457)	(3,435)	(62,821)	3/
Rehab. to Class 2	(19,270)	(14,854)	(271,576)	3/

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 2/3 - Great Falls to Lewistown to Harlowton (Cont'd)

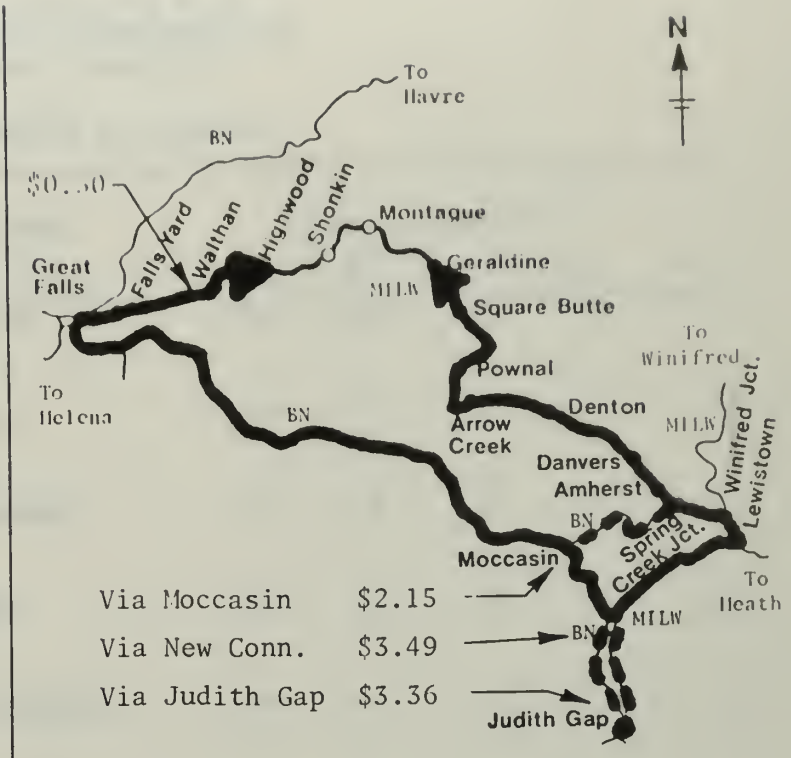
Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Retain Rail Service (No Traffic Growth)				
M. BN Operation, Judith Gap-Lewistown (plus Alternatives I, J, or K)				
w/o Rehab.	(75,880)	(58,495)	(1,069,390)	3/
Rehab. to Class 1	(72,814)	(56,131)	(1,026,176)	3/
Rehab. to Class 2	(104,972)	(80,920)	(1,479,370)	3/
N. BN Operation, New Connection-Lewistown (plus Alternatives I, J, or K)				
w/o Rehab.	(93,093)	(70,518)	(1,289,189)	3/
Rehab. to Class 1	(90,027)	(68,154)	(1,245,975)	3/
Rehab. to Class 2	(113,892)	(87,797)	(1,605,079)	3/

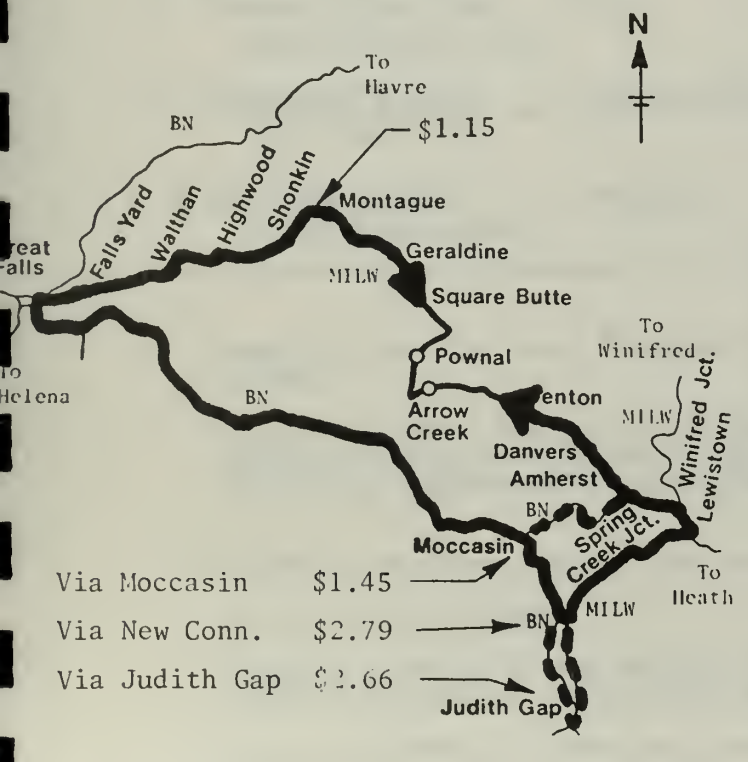
1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Date source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

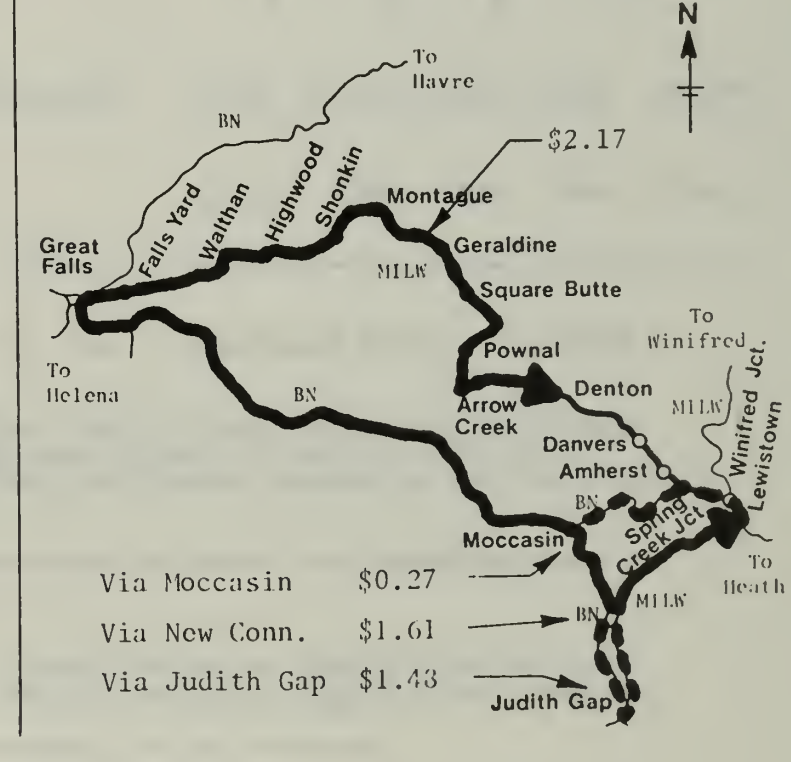
2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit under the operating alternative shown.

4/ Inclusion of existing Burlington Northern traffic at Lewistown increases the 4-year profit by $74 or $78 thousand (Class 1 and Class 2 rehabilitation, respectively). Also applies to Alternatives B through E.







Estimated Railroad Profits from Continuing Rail Service ($ millions)
(attributable revenues less avoidable costs expressed as a present value over a four-year period, including rehabilitation to Class 2 track conditions and Burlington Northern operation)

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 2 - Great Falls to Lewistown

Component Impact [1]	Affected Group	Gain/Loss ($000.3) [2]				
		A	B	C	D	E
1. Wage and Salary Loss in Affected Counties [3]	General Populace	-225	-18	0	0	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	+18	+1	0	0	0
3. Loss in Local Purchases in Affected Counties	Business Community	-27	0	0	0	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	+2	0	0	0	0
5. Unemployment Payments	Employers throughout Montana	-156	-17	0	0	0
6. Income Tax Loss	State Government	-5	0	0	0	0
7. Transport Cost Increase [5]	Shippers	-2,801	--76	-6	0	-118
8. Increased Highway Maintenance & Reconst. Cost	MDH	[4]	[4]	[4]	[4]	
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	+7,418	+1,275	+3,370	+3,196	+3,205
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+2,258	+541	+518	+489	+546

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material .

[2] Present value over a four-year period. Four segments cover: A-entire line, B-Great Falls (excluded) to Highwood (excluded), C-Highwood (excluded) to Geraldine (excluded), D-Square Butte (excluded) to Denton (excluded), and E-Denton (excluded) to Lewistown (excluded).

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 3 - Lewistown to Harlowton

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) A [2]	B [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	-130	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	+14	0
3. Loss in Local Purchases in Affected Counties	Business Community	-15	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	+2	0
5. Unemployment Payments	Employers throughout Montana	0	0
6. Income Tax Loss	State Government	-4	0
7. Transport Cost Increase [5]	Shippers	-1,392	-443
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/	4/
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	+1,854	+828
10. Opp. Costs Realized through Abandonment [7]	Owning RR	-1,836	+577

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period. Two segments cover: A-entire line (Milw. shippers only at Lewistown) and B- Judith Gap (excluded) to Harlowton (includes public grain warehouse at Harlowton).

3/ Represents primary and secondary wage loss less any increases in local trucking employment.

4/ Data not presently available.

5/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

6/ Continued operation as at present with rehabilitation to Class I standards.

7/ Net salvage value invested at nine percent interest for four years.

secondary highway and 6 percent for the primary route. When completed, these calculations will probably show the need for appreciable capital investment to upgrade Routes 80 and 81 and US 87 and 191 to handle the additional grain trucks. However, the required infrastructure is not the main problem. Without rail to effectively place a ceiling on the rates charged by independent truckers, transport costs are bound to increase partly because the margin for profit provided by present truck rates is very low. While intramodal competition will provide some control over the rates charged, it is unclear how grain public warehouses (and the farmers themselves) will react to the uncertainty and unstability potentially brought about by the loss of rail service and the requirement to move three to four million additional bushels of grain by truck per year.

2. Continue rail service as it has been provided in the past. Unfortunately, the continuation of traditional railroading does nothing to solve the fundamental problems -- uncertain transit times, car shortages, and the obsolete "light" rail which necessitates restricted car loadings. Depending upon the allocation formulas at the national level and the availability of local matching funds, it could take a number of years to complete necessary rehabilitation, which in the end would not create a railroad much different from that existing in the 1940's and 1950's. A continuation of the present modus operendi is not a progressive solution.

3. Continue rail service utilizing an upgraded track structure capable of handling fully-laden 100-ton hopper cars. Under such a concept, small improvements can be made in light density line operations although this in itself does little to improve system transit times and car availability. Replacing existing light rail with heavier relay rail is a far more expensive proposition than simply rehabilitating the line using the existing track; whether required federal and local matching monies would be available is uncertain. The important point is that major public investment in track infrastructure will not significantly reduce railroad operating costs or improve the return on equipment investment or improve car utilization. From an operating standpoint, this alternative introduces no efficiencies of scale and thus is simply a continuation of business-as-usual.

4. Thoroughly investigate the grain subterminal concept and, if workable, implement as a "pilot" terminal for similar facilities to be eventually constructed elsewhere in Montana. The general concept has previously been discussed in Section 11. Its chief virtue is that it does introduce major economies of scale reflected in better utilization of the car fleet (probably dedicated equipment) and more reliable service (use of unit trains, thus eliminating local way freights and the switching operations taking place enroute). It is a concept which is not now in existence anywhere

in Montana. Its practicality rests on (a) being able to pass along significant economic benefits (transport cost savings) to the three principal actors, (b) a willingness on the part of grain terminals to combine together their shipping requirements into unit train quantities bound for a single destination, while retaining their independence and competitiveness in all other areas, and (c) the availability of capital funds to construct a strategically located grain subterminal and make necessary improvements to the highway system to sustain the "collector" trucking required in support of the terminal. This concept is the only long-term, technologically advanced solution possible today. It does require a throughput of at least 100 thousand tons per year, with five thousand ton shipments to single destinations. It is only possible where one carrier enjoys an areawide monopoly on rail service. MDH recognizes the degree of change required to successfully implement such a solution and that institutional inertia is probably the largest hurdle to be overcome. Since in this case, some action has to be taken to ensure the continuation of rail service, this may well be the time to make the required giant leap forward in grain transport.

A complicating factor is whether the Milwaukee remains in business, either in its present form or as some type of successor railroad in the northwest. If the Milwaukee stays, then MDH has little choice other than alternate 1 (some minor consolidation of facilities between the Burlington Northern and the Milwaukee would still be possible). The Milwaukee or successor railroad simply needs all the revenue it can get. If the Milwaukee goes, then Montana has more freedom of action to address the underlying problems. Both the MDH and the Department of Agriculture (MDA) have not had sufficient time to thoroughly investigate the grain subterminal concept -- to perform the micro-economic and transport system analyses necessary to establish whether the concept is economically viable. Equally important are the institutional aspects -- the need to work closely with farmers/farm organizations, grain public warehouse operators, trucking interests, local officials, and railroad personnel to solve the myriad of concerns, problems and complications arising from such drastic change. Thus, both agencies should immediately proceed forward with this study. Until the results are known, the MDH will take whatever action is required to retain rail service at principal generating points along this line. If the grain terminal concept proves feasible, then MDH and MDA will proceed to implement this solution, phasing out rail service along this line only when the subterminal becomes fully operational. If the grain subterminal is not practical or feasible, then the MDH recommends a rationalization of plant and consolidation of facilities, where practical, and rehabilitation of the remaining trackage.

The cost of discontinuing rail service (community impacts) for the entire line amount to approximately $1.67 million annually ($1.56 million excluding Great Falls). Most of this is comprised of increases in transport costs. (Abandoning services on portions of the line results in annual costs of $21

thousand for Great Falls to Highwood, $26 thousand for Highwood to Geraldine, $0 for Square Butte to Denton, $58 thousand for Denton to Lewistown, and $217 thousand for Judith Gap to Harlowton.) These estimates are based on the use of elevators in Great Falls in place of those no longer receiving rail service. Were trucks to be used to transport grain all-the-way to its ultimate destination (or a river port for continuing movement by barge), the cost of discontinuing rail service is estimated at $752 thousand annually ($637 thousand excluding Great Falls). The actual cost is likely to be between the two cost estimates.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

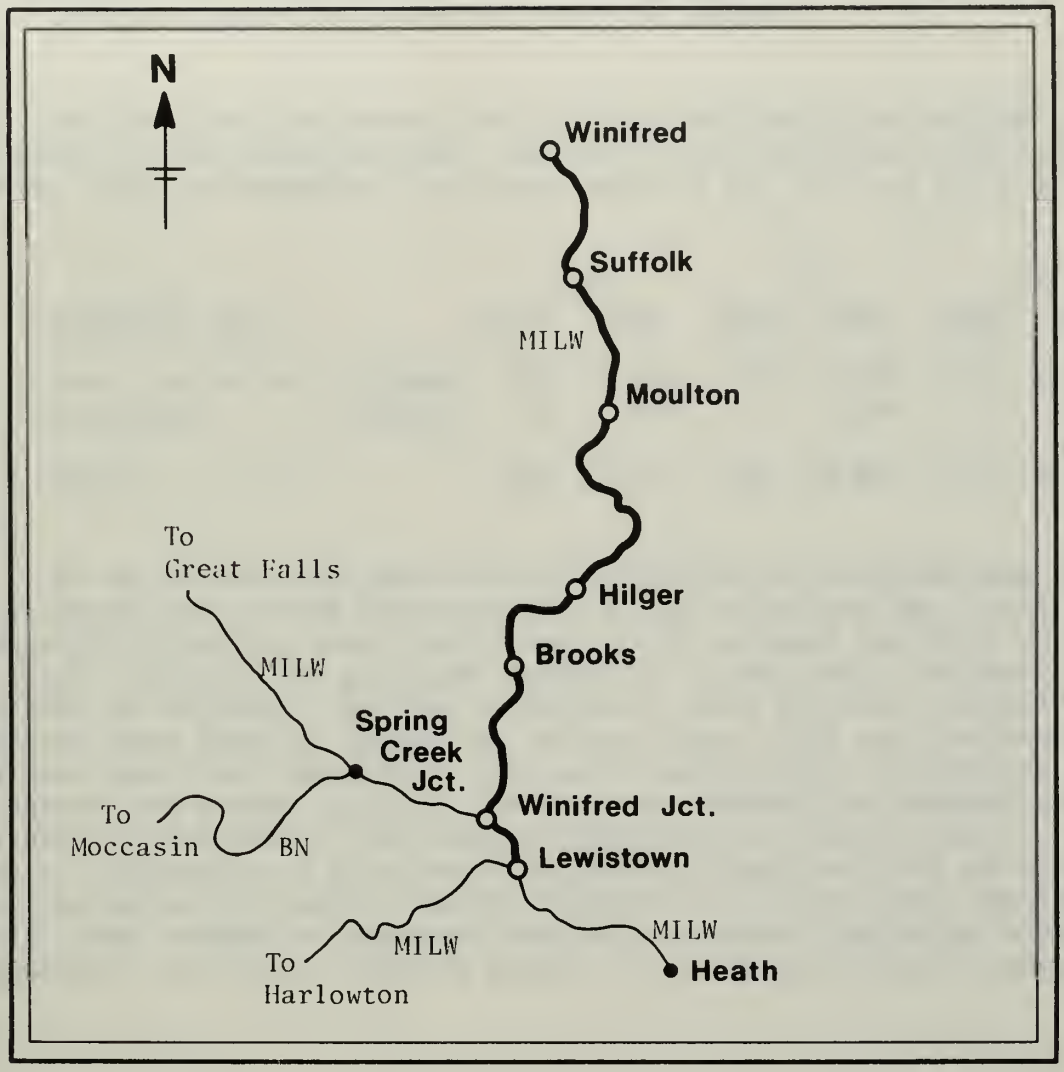
- The line does have economic viability, although a better long-term solution might be a grain subterminal serving this and other lines, rather than a continuation of present light density line rail service.

- The economic impacts of abandonment are severe in terms of potential transport cost increases and highway system impacts.

- Abandonment would cause a major increase in energy use from increased truck volumes.

- Replacement trucking is not now available to "pick up the slack", although with sufficient notice, motor carrier capabilities could probably be increased to required levels.

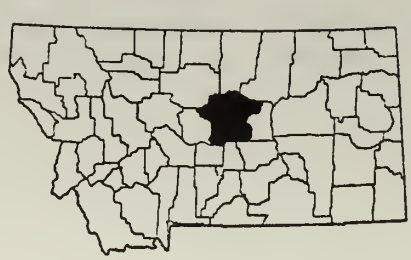
Line 4 Lewistown to Winifred



This line, the 12th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from Winifred Jct. west of Lewistown to Winifred, a distance of 42.7 miles in Fergus County. By application filed September 1, 1978, the Milwaukee Road is seeking authority to abandon the entire line. Consequently, this line is classified as ICC Systems Diagram Category 3 (pending abandonment). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Lewistown to Winifred**
- **Other Lines**
- O **Freight Station**
- • **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The four, rail-oriented firms located along this line reported shipping 148 and receiving eight carloads of the following commodities during 1978 (corresponding data are also shown for 1976 and 1977).[1/]

Commodity Type		1976 Cars	1976 Tons	1977 Cars	1977 Tons	1978 Cars	1978 Tons
Wheat and Barley	Outbound	199	12,736	175	12,392	148	11,137
Fertilizer	Inbound	6	431	7	503	8	529
Total		205	13,167	182	12,895	156	11,666

As can be seen from the above data, traffic has declined over the past three years. This decline is due to the car supply and transit reliability problems being experienced by all elevator operators on the Milwaukee system. The principal shipper is a grain public warehouse located at the end of the line in Winifred. This elevator primarily handles wheat which is shipped to the west coast (55%) and the interior of Washington and Oregon (35%) with minor amounts also destined for Minnesota and Montana markets. So far, rail remains the dominant mode although some diversion has occurred especially within the past two years (combination of truck/barge shipments through Lewiston and back-haul movements by truck). Barley shipments are largely local (Montana) with lesser amounts to Minnesota and the west coast, including interior Washington and Oregon. Over 90 percent of the grain handled is wheat.

1/ Commodity statistics supplied by the Milwaukee. Shippers indicated shipping 160 carloads in 1978 (150 outbound, 10 inbound).

2. REVENUES AND COSTS OF RAIL SERVICE

	Base Year[1]	Projected Subsidy Year Operations[2]
Attributable Revenues		
1. Freight Originated and/or Terminated On-Branch	$275,817	$313,332
2. Bridge Traffic		
3. Demurrage		
4. All Other	2,037	2,037
5. Total Revenues Attributable	$277,854	$315,369
Avoidable Costs		
6. Off-Branch Costs	$126,270	$154,455
7. On-Branch Costs		
a. Maintenance of Way & Structures	16,698	43,400
b. Maintenance of Equipment	10,633	14,540
c. Traffic	-	-
d. Transportation	26,476	27,822
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	4,453	11,574
h. Taxes	1,903	2,162
i. Rent Income	-	-
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$186,433	$253,953
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 9,767
b. Income Tax Benefits		-
c. Net Liquidation Benefits		276,000
d. Total		$285,767
10. Rate of Return		16.68%
11. Total Return on Value		$ 47,666
12. Estimated Subsidy Payment		$(61,416)[3]
(not including rehabilitation)		$(13,750)[4]

1/ July, 1977 through June, 1978.

2/ Milwaukee abandonment application AB-7 (Sub. No. 69F) modified to exclude rehabilitation. Exhibit 8. September 1, 1978.

3/ Out-of-pocket loss (does not include return on value).

4/ Includes return on value.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Winifred branch was originally constructed in 1912 to 1914 by a Milwaukee predecessor. The track ascends alongside the drainage of Burnette Creek from elevation 3928 at Winifred Junction to elevation 4088 at Hilger. From here, the line descends following the drainage of Dog Creek to the end of the track at Winifred (elevation 3211). The maximum gradient is 1.5% in both directions. There are 62 curves ranging from one to ten degrees.

Original construction was of 60 pound rail except for a 0.9 mile stretch near Winifred. Since then, several short sections have been relaid with heavier rail. The Milwaukee considers the rail worn, but in serviceable condition. Joint bars are considered to be in fair to good condition. Cross ties are a mixture of about half hardwood and half softwood ties ranging from 25 to 30 years in age. The Milwaukee estimates that about a quarter of the ties will have to be replaced over the next five years. Ballast consists of pit run gravel underlying sod. No surfacing has been accomplished since 1962 when six miles was lined and surfaced just north of Winifred Junction. Track line and surface is considered to be fair to good as is the general track condition.

This line was not inspected by MDH. While the Milwaukee timetable shows a maximum speed of 25 mph, it probably only meets FRA Track Class 1 conditions. Maintenance of way expenditures in recent years have been minimal. Extensive rehabilitation is required if service is to be maintained on this line over the long term. The cost of rehabilitating the line over a five-year period has been estimated by the Milwaukee as follows:[1/]

Description	Unit	Quantity	Unit Cost Material	Unit Cost Labor	1st Yr. Cost
Rail Replacement	trk. ft.	4110	$ 5.00	$ 2.55	$ 31,030
Cross-tie Replacement	each	5200	13.00	8.50	111,800
Ballast	cu. yd.	3120	4.30	8.50	40,547
Other Track Material	lot	1	10,360.00	-	10,360
Align and Surface	mile	3.12	-	4,500.00	14,040
Repair Grade Crossings	ft.	160	7.00	8.25	2,430
Bridge and Culvert Work	lot	1	9,150.00	29,800.00	38,950
Weed and Brush Control	mile		175.00	95.00	11,720
Miscellaneous Exp.	-	-	-	-	34,605
Total (including 10% for contingencies)					$325,030

1/ Milwaukee abandonment application AB-7 (Sub. No. 69F), Exhibit 5, Appendix A, September 1, 1978.

Similar rehabilitation costs of $351,032, $379,115, $409,444, and $442,200 are estimated for 1980 through 1983, thus producing a total rehabilitation estimate of $1,906,821 for 42.7 miles of track ($44,656 per mile). The net salvage value of the line is estimated to be $156 thousand and the value of the right-of-way to be $120 thousand.

4. FUTURE FREIGHT SERVICE NEEDS

This line serves, in part, one of the more important wheat producing counties of the state (Fergus County accounted for nearly four percent of the wheat grown in Montana in 1976 and 1977). Several grain public warehouses are located along the line, the largest of which is at Winifred and has a capacity of 103,000 bu. This particular shipper has continued to use rail service almost exclusively for the movement of wheat and barley. Most of the other shippers formerly using the line have apparently made other marketing and transport arrangements. Some of this undoubtedly reflects the uncertain service and difficult car supply problems faced by shippers utilizing the Milwaukee in recent years. Equally important is the fact that the rail rate for grain shipments to the west coast from stations along this line is higher than the rate from Lewistown or stations to the west.[1/] Consequently, the natural tendency is to truck to grain public warehouses enjoying a lower rate. While rail traffic has decreased, the production of grain has remained at traditional levels, weather conditions permitting. While the traffic remains, the incentive to use rail service has declined substantially.

Thus, under the conditions that presently exist, it would appear that there is little long-term need for rail freight service on this line. Declining traffic volumes, car supply and service problems, the obsolescence and condition of the physical plant, the likely availability of continuing rail service at or near Lewistown, and the availability of trucking for local or longer distance grain movements all suggest that the retention of this line is not required to meet future freight service needs.[2/]

One note of caution. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economies and energy dependency, there is no guarantee that area interests will be best served over the long-term by total dependence upon motor carrier transport.

1/ For example, the X-311 tariff rate (¢/cwt) is 139 1/2 from Winifred, 134 from Suffolk, 132 1/2 from Moulton, 131 1/2 from Hilger, and 130 from Brooks as compared with 129 from Lewistown and 125 1/2 from Denton.

2/ In the early 1970's, the Milwaukee abandoned most of its line extending from Lewistown to Grass Range for similar reasons. In this case, the grain rail rate from Grass Range was identical to the rate charged at Winifred. This further suggests the impossibility of retaining traffic in the face of sizeable rate differentials.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on this line account for 0.04 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

Abandonment of this line will have some impact on US191 between Lewistown and Hilger and a major impact on Montana 236 between Hilger and Winifred. The latter, a secondary road, was designed to have a 20-year life expectancy and was constructed in 1961-1963. Termination of rail service would add approximately 1500 grain vehicle annual trips to an average daily traffic of 350 vehicles, of which only a very small proportion are heavy trucks. A grain truck has an average weight of 22,000 pounds and a gross weight (loaded) of nearly 40,000 pounds. Calculations made by the MDH indicate that the design life expectancy of Route 236 would be decreased by 162 days for each year the additional load is carried on the secondary highway or a 44 percent reduction in life expectancy.1/ (The loss in design life expectancy on US191 is estimated to be 22 days for each year the additional load is carried, or a six percent reduction in life expectancy.) The cost of additional surfacing required to carry the increased loadings (roughly three inches of Grade C PMBS plus required seal and cover coats) amounts to approximately $41,600 per centerline mile, or nearly $1.0 million for improving 23 miles of Route 236.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Traffic volumes are insufficient to sustain operations by a short line railroad.

Shippers have generally indicated that they would use both short and long distance trucking for grain movements to the west coast. The former would involve the use of alternate grain public warehouses in or around Lewistown.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has, in the past, been served on an as-needed basis by one locomotive (an M1500) and a four-man local crew operating out of Lewistown. In 1976 and 1977, 31 and 27 round trips were made on the branchline.2/ Further service reductions to achieve substantial operating economies do not appear to be possible.

1/ See "Impact Analysis of the Proposed Abandonment of the Milwaukee Branchline from Winifred to Winifred Junction," prepared by the Rail Planning Unit, Montana Department of Highways, June 26, 1979.

2/ No information is available on the number of trips made in 1978, although only two were reported during the first six months of 1978.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are substantially less than avoidable costs.

By application dated September 1, 1978 the Milwaukee is seeking ICC authority to abandon this line. Under recent revisions of the Section 803 Program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used in subsidizing operations, acquisition, rehabilitation or substitute service. (Projects involving acquisition, rehabilitation or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is doubtful whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No non-rail alternatives other than abandonment have been evaluated.

With regard to continued rail service, four investment options are conceptually possible:

- Retain present rail service without rehabilitation, to the extent that track conditions allow continued operations.

- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.

- Undertake a more extensive on-time rehabilitation to substantially upgrade the track structure so that it could handle modern 100 ton hopper cars. (This alternative has not been evaluated, however.)

- Construct in the general Lewistown area a grain subterminal to allow for the use of unit grain trains. This subterminal would eventually permit the retirement of this and other Milwaukee grain feeder lines. (See the assessment for Lines 2 and 3.)

Coupled with the above investment options are two traffic scenarios:

- No traffic growth.

- Present plus the potential traffic identified in the shippers' survey. (Since there is little potential traffic, this traffic possibility has not been evaluated.)

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, operational, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based upon component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Although Milwaukee records indicate that the line returns a $91 thousand per year profit, this reflects minimal maintenance of way and structures expenditures and no return on investment. Including a higher allowance for maintenance and an appropriate return on investment, the line appears to lose about $145 thousand per year with present traffic (including amortization of Class 1 rehabilitation costs). (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

Besides its unprofitability, other important factors are the general obsolescence and poor physical condition of the track (caused by years of deferred maintenance), which rule out any long-term continuation of rail service as provided by the Milwaukee in the past. The line has changed very little from the time it was built in 1913 with 60 pound rail. While track conditions can be improved through

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 4 - Lewistown to Winifred

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	11,919	8,269	152,367	
Retain Rail Service				
MILW Operation w/o Rehab.	29,027	21,895	400,274	0.38
Rehab. to Class 1	36,303	27,504	502,813	0.30

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 4 - Lewistown to Winifred

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-152
8. Increased Highway Maintenance & Reconst. Cost	MDH	-173
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-1,047
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+341

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

[2] Present value over a four-year period.

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

extensive tie renewals and ballasting, this still will not permit the use of fully-laden, 100 ton hopper cars. To achieve this added capability, the rail would have to be replaced with 90 or 100 pound rail. All of this could be done, were the funds available. The Milwaukee has in its abandonment application estimated the cost of rehabilitating the line at $1.9 million and for upgrading the line at $10.0 million. Neither investment can be amortized using present profits or those which could be reasonably expected from more efficient rail operations. This compares with a $1.0 million highway reconstruction investment required were the line abandoned. (In a similar vein, the construction of a grain subterminal cannot be justified on the basis of the traffic volumes generated solely by this line, even though such a solution may represent the best long-term hope for modernizing grain transport. The traffic base simply does not provide sufficient justification for any substantial capital investments.) The relative advantages and disadvantages of the four investment options are summarized below:

	Project Life	Cost		Efficiency		Grain Handling Efficiency
		Operating	Capital	Rail Oper.	Investment	
Retain Present Rail Service	0-5 yr. (at best)	med-high	very low	very low	n/a	poor
Rehab. to Class 1	5 to 10 yrs.	med.	med.	low	low	poor
Upgrade to Class 2	20 to 40 yrs.	low-med.	high	low-med.	very low	mod.
Develop Subterminal	20 to 40 yrs.	low	low	high	high	high

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $44 thousand annually and is comprised solely of increases in transport costs. The ratio of the cost of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio) is 0.30. Since this ratio is substantially less than 1.0, MDH concludes that the economic benefits achieved are insufficient to warrent the continuation of rail service, if the ICC issues a certificate of public convenience and necessity, thus permitting the abandonment of this line. Other factors affecting this are (1) the primary beneficiary is one public grain warehouse, (2) the magnitude of the rehabilitation expenditures required for this line, and (3) the great need for Section 803 funds on other projects offering a far greater return on the investment of federal and local funds.

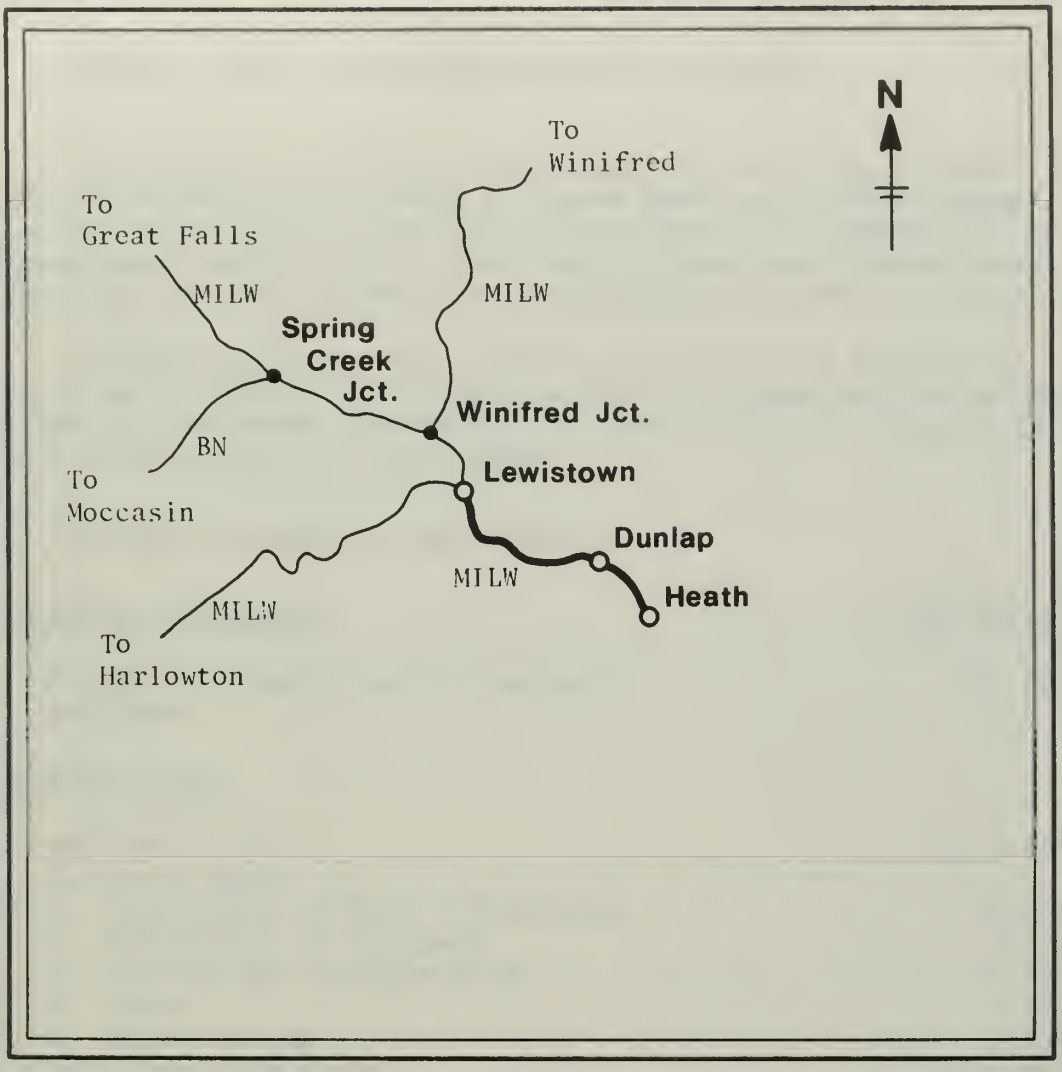
An abandonment application has been filed by the Milwaukee. Since the line appears to be unprofitable and a strong case cannot be made for continuing rail service, the Department will not oppose the abandonment of this line, even though some economic and energy consumption impacts will occur.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have long-term economic viability.
- Little community impact would result from abandonment.
- The line is not essential to the state or regional rail network.
- Alternate modes are available.

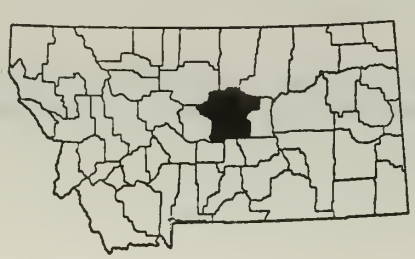
Line 5 Lewistown to Heath



This line, the 11th Subdivision of the Chicago, Milwaukee, St. Paul and Pacific Railroad's Montana Division, extends from the Lewistown yard to Heath, a distance of 9.2 miles in Fergus County. The line has recently been classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years). The Milwaukee has announced its intention to abandon all lines west of Miles City.

LEGEND

- **Lewistown to Heath**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The single rail-oriented firm located on this line at Heath reported shipping 122 carloads of gypsum board and portland cement rock and receiving 126 carloads of paper used in the manufacture of gypsum board during 1978.[1/] The firm, a gypsum board manufacturer, considers 1978 rail volumes to be substantially higher than normal.

In addition to the above traffic, 36 carloads of scrap metal originated at Dunlap. This one-time traffic represented the salvage of the rail and other track materials from the former extension of the 11th Subdivision to Grass Range.

2. REVENUES AND COSTS OF RAIL SERVICE

Attributable Revenues	Projected Subsidy Year Operations[2/]
1. Freight Originated and/or Terminated On-Branch	$197,604
Avoidable Costs	
2. Off-Branch Costs	$110,660
3. On-Branch Costs	
a. Maintenance of Ways & Structures	30,360
b. Maintenance of Equipment	8,120
c. Traffic and Transportation	19,880
d. Taxes	3,864
e. Miscellaneous	1,976
4. Total Avoidable Costs	$174,860
Return on Value	
5. Total Return on Value	$ 16,936
6. Estimated Subsidy Payment	$ (5,808)

1/ Commodity statistics supplied by the Milwaukee. Figures shown are substantially above those reported in the shipper's survey.

2/ MDH Estimates.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Grass Range branch was originally constructed around 1913 by a predecessor to the present Milwaukee Road. The track ascends along Big Spring Creek from elevation 3986 at the Lewistown Yard to 4410 at Heath. The maximum gradient is 2.0 percent between Dunlap and Heath, and the maximum curvature is 8 degrees.

Examination of the condensed profile supplied by the Milwaukee indicates that the line consists primarily of 75-pound rail installed in 1913 with several short sections of heavier rail. No information is given on when surfacing and lining or tie renewal was last done. Traffic over the line in recent years has been minimal, thus reducing the need for such maintenance.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June 1979 with quantitative data samples being taken at three locations and qualitative spot checks at several additional locations to verify the consistency of track work and conditions. The line was found to be in poor to fair condition with the major deficiencies being the need for tie renewals and ballasting. 1/

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	2,606	$23.00	$59,938
Joint Tightening	mile	9.7	288.00	2,794
Turnout Rehab-Frogs	each	14	294.00	4,116
Switch Ties	lin ft	840	8.20	6,888
Light Ballast Dump	cu yd	4,155	6.60	27,423
Spot Tamping	mile	6.6	991.00	6,541
Spraying	mile	9.7	364.00	3,531
Embankment Work	cu yd	4,000	1.10	4,400
Total for 9.7 miles				$115,631
Cost per Mile				$ 11,021

1/ For a more complete report on observed conditions, see pages 29 through 32 of the "Consultant's Report" dated June, 1979 prepared by Railway Technology Services, Inc. for RCAI. This report also describes the method of inspection and the manner in which rehabilitation, maintenance, and salvage value estimates have been prepared.

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	4,841	$23.00	$111,343
Joint Tightening	mile	9.7	288.00	2,794
Turnout Rehab-Frogs	each	14	294.00	4,116
Switch Ties	lin ft	840	8.20	6,888
Light Ballast Dump	cu yd	2,078	6.60	13,715
Full Ballast Dump	cu yd	6,355	6.60	41,943
Surfacing & Lining	mile	9.7	3,172.00	30,768
Spraying	mile	9.7	364.00	4,531
Embankment Work	cu yd	4,000	1.10	4,400
Total for 9.7 miles.				$ 219,498
Cost per Mile				$ 22,629

The total salvage value of the line was estimated to be $216,600. Pick-up costs were estimated to be $133,579 for a net salvage value of $83,021 ($8,559 per mile).

4. FUTURE FREIGHT SERVICE NEEDS

The gypsum board manufacturer views continued rail service as being essential to obtaining sufficient quantities of paper and of appreciable value in shipping the finished product to regional markets. However, a major portion of gypsum board shipments are made by truck, even though present truck rates are 26 ¢/cwt higher than the rail rate on shipments to the west coast. Two factors are involved: (1) the Milwaukee's inability to guarantee a steady supply of rail cars and (2) the presence of a trucking firm adjacent to the gypsum plant.1/ Movements made by rail would shift over to truck were rail service discontinued. The viability of the gypsum board manufacturing plant apparently is little affected by the continuation of rail service.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received over this line account for 0.06 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Traffic volumes are insufficient to sustain operation by a short line railroad.

The impact upon the sole rail-oriented firm of substituting truck is largely one of increased transport costs.

1/ During the recent independent trucker's strike, the plant was forced to close down since it was unable to obtain rail cars on short notice.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (an M1500) and a four-man local crew operating out of Lewistown. Further service reductions to achieve substantial operating economies do not appear to be possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are slightly less than avoidable costs.

No final decision has been made by the Milwaukee as to whether to seek the abandonment of this line, although the Trustee has announced his intention to abandon all lines west of Miles City. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is uncertain whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Several scenarios for continued rail operations were analyzed. The three investment options considered were:

- Retain present rail service without rehabilitation.
- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.

- Retain present rail service and undertake a one-time rehabilitation to improve the track structure such that it will fully meet FRA Track Class 2 standards for at least ten years.

In addition, two ownership options were also evaluated.

- Continued ownership and operation by the Milwaukee.
- Ownership and operation by the Burlington Northern.

Along with the above investment and ownership options, two traffic scenarios are also possible:

- Base year traffic (no traffic growth).
- Base year plus the potential traffic identified in the shippers' survey (not evaluated).

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Based on MDH calculations (Milwaukee records were not available for this line), the line appears to lose about $4 thousand per year with present traffic, (including amortization of Class 1 rehabilitation costs).1/ Under Burlington Northern operation, the line would appear to lose $3 thousand under the same conditions. (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $3 thousand annually and is comprised solely of increases in transport costs. The ratio of the costs of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio) is 0.3. Since this ratio is less than 1.0, MDH concludes that the economic benefits achieved may not be sufficient to warrent the continuation of rail service, assuming that the Milwaukee

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1/ Excluding rehabilitation costs, the line would retrun a $6 thousand per year profit.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 5 - Lewistown to Heath

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	929	644	11,873	
Retain Rail Service				
A. MILW Operation				
w/o Rehab.	(1,428)	(1,101)	(20,122)	3/
Rehab. to Class 1	1,063	820	14,986	0.79
Rehab. to Class 2	3,325	2,563	46,856	0.25
B. BN Operation				
w/o Rehab.	(1,656)	(1,277)	(23,338)	3/
Rehab. to Class 1	835	644	11,770	1.01
Rehab. to Class 2	2,822	2,175	39,768	0.30

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternate shown.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 5 - Lewistown to Heath

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-12
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-15
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+165

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material .

[2] Present value over a four-year period. Milwaukee operation.

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

will seek the abandonment of this line. Other factors affecting this are (1) the primary beneficiary is one firm, (2) the magnitude of the rehabilitation expenditures required for this line, and (3) the great need for Section 803 funds on other projects offering a far greater return on the investment of federal and local funds.

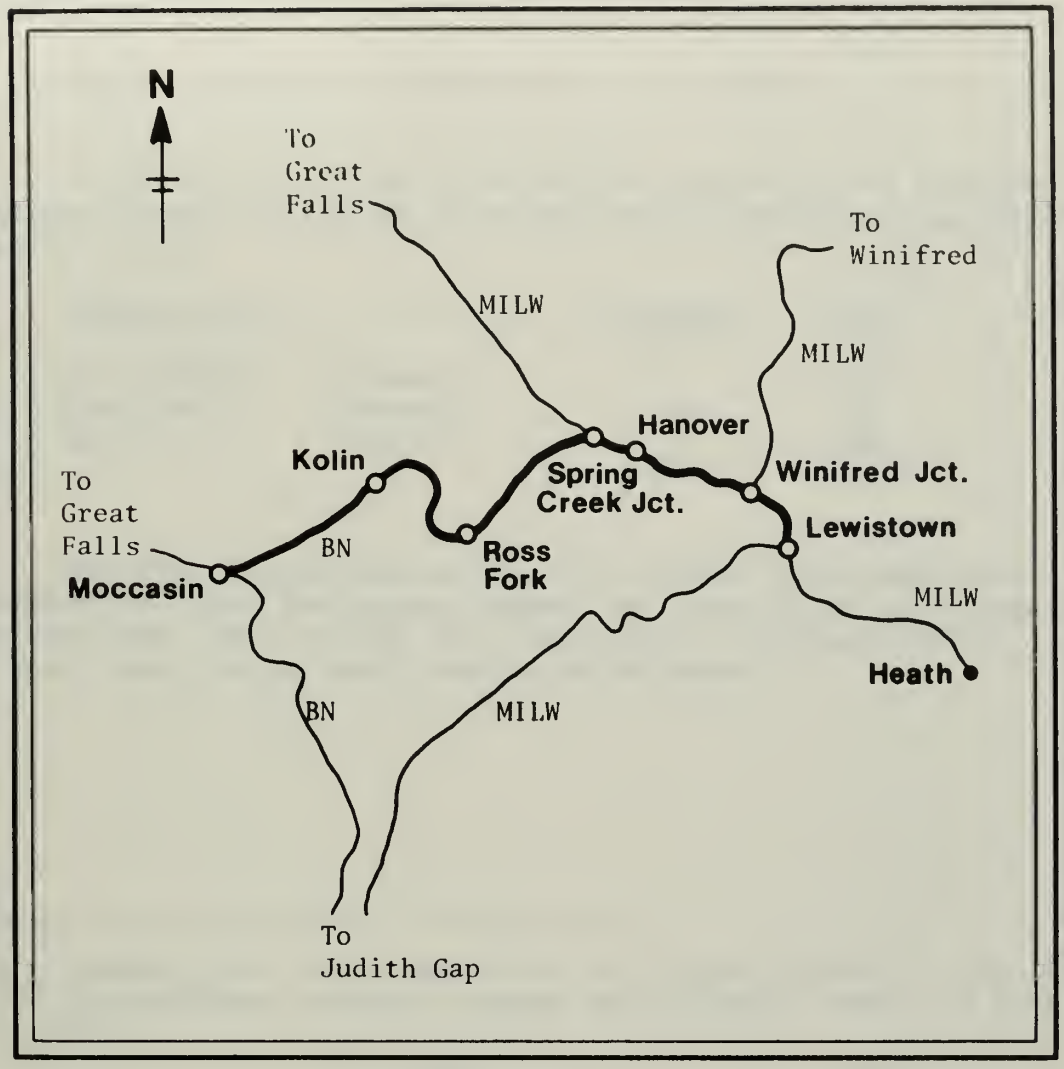
The Department anticipates that an abandonment application will shortly be filed by the Milwaukee. Since the line appears to be marginal and a strong economic or social case cannot be made for continuing rail service, the Department will not oppose the abandonment of this line.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have long-term economic viability.
- The economic impacts of abandonment are small.
- Little community impact would result from abandonment.
- Abandonment causes only very small changes in energy use and environmental factors.
- The line is not essential to the state or regional rail network.
- Alternative modes are available.

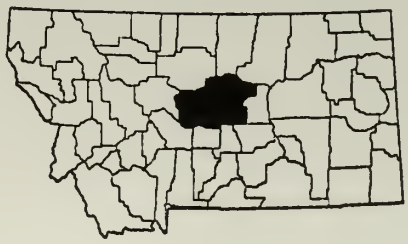
Line 6 Moccasin to Lewistown



This line, the 11th Subdivision of the Burlington Northern's Montana Division, extends from Moccasin (on the BN's 5th Subdivision Main Line) to Lewistown, a distance of 30.7 miles in Judith Basin and Fergus Counties. Between Lewistown and Spring Creek Jct. (a distance of 9.2 miles), the BN has trackage rights over the Milwaukee's 13th Subdivision. The line is currently classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years).

LEGEND

- **Mocassin to Lewistown**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The five rail-oriented firms located along this line reported shipping five and receiving 25 carloads of the following commodities during 1978.1/

Commodity Type		Carloads	Tons
Farm Equipment	Inbound	21	540
Scrap Metal	Outbound	5	335
Beer	Inbound	4	268
		30	1023

Worksheet I summarizes the line and shipper characteristics. Shippers utilizing Burlington Northern rail service are all located in Lewistown. They include three agricultural equipment dealers, a scrap metal dealer, and a beverage distributor.

1/ Commodity flow data supplied by the shippers located on this line. The Burlington Northern reported the following traffic in 1977 and 1978.

	1977		1978	
	Carloads	Tons	Carloads	Tons
Inbound	144	6631	100	6956
Outbound	20	1270	43	2071
Total	164	7901	143	9027

Some of the difference between that reported in the shippers' survey and Burlington Northern records may be attributable to grain shipments originating from the three grain public warehouses in Lewistown also served by the Milwaukee. It is also possible that several shippers were inadvertently missed in conducting the shippers' survey.

2. REVENUES AND COSTS OF RAIL SERVICE

Attributable Revenues	Year 1977 1/	Projected Subsidy Year Operations 2/
1. Freight Originated and/or Terminated On-Branch	$ 110,349	$ 119,490
2. Switching	531	
3. Demurrage	20	
4. All Other	5,639	6,710
5. Total Revenues Attributable	$ 116,539	$ 126,200
Avoidable Costs		
6. Off-Branch Costs	$ 51,461	$ 55,600
7. On-Branch Costs		
a. Maintenance of Way & Structures	30,705	30,700
b. Maintenance of Equipment	7,013	7,600
c. Traffic	-	-
d. Transportation	57,654	62,300
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	16,598	17,900
h. Taxes	-	-
i. Rent Income	2,214	2,400
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$ 161,217	$ 176,500
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 6,800
b. Income Tax Benefits		(29,700)
c. Net Liquidation Benefits		344,900
d. Total		$ 322,000
10. Rate of Return		19.30%
11. Total Return on Value		$ 62,100
12. Estimated Subsidy Payment (not including rehabilitation)		$ 112,400

1/ Burlington Northern railroad estimates prepared by the Costs & Statistics Division, Finance Department, July 26, 1978.

2/ MDH Estimates.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 11th Subdivision of the Burlington Northern's Montana Division (a former Great Northern Branch) is a single track line with passing sidings at Kolin and Hanover. The line descends approximately 400 feet at a grade of 0.6% compensated from Moccasin to the Judith River, and further descends in elevation until Spring Creek is reached. From Spring Creek to Lewistown, ascends approximately 200 feet at a grade of approximately 1.0 %. From Moccasin to Kolin and Hanover to Lewistown, the maximum speed is 35 mph. From Kolin to the Spring Creek Junction, speeds are limited to 25 mph. Speeds over the Spring Creek viaduct are restricted to 15 mph. Between Spring Creek and Lewistown, the line is owned and operated jointly by the Burlington Northern and the Milwaukee, with the Milwaukee having maintenance responsibility. The Burlington Northern does own outright the industrial tracks in Lewistown.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June, 1979 with quantitative data samples being taken at five locations and qualitative spot checks at several additional locations to verify the consistency of track work and conditions. The line was found to be in poor to fair condition with the major deficiencies being the need for tie renewals and ballasting.[1/]

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	1,002	$ 23.00	$ 23,046
Joint Tightening	mile	21.4	288.00	6,163
Switch Ties Repl.	lin ft	432	8.20	3,542
Shoulder Ballast Dump	cu yd	10,260	6.60	67,716
Spot Tamping	mile	15	991.00	14,865
Spraying	mile	21.4	364.00	7,790
Total for 21.4 miles				$123,122
Cost per Mile				$ 5,753

1/ For a more complete report on observed conditions, see pages 33 through 37 of the "Consultant's Report" dated June, 1979 prepared by Railway Technology Services, Inc. for RCAI. This report also describes the method of inspection and the manner in which rehabilitation, maintenance, and salvage value estimates have been prepared.

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-Tie Replacement	each	2,404	$ 23.00	$ 55,292
Joint Tightening	mile	21.4	288.00	6,163
Switch Ties Repl.	lin ft	432	8.20	3,542
Shoulder Ballast Dump	cu yd	10,260	6.60	67,716
Light Ballast Dump	cu yd	5,318	6.60	35,099
Surfacing & Lining	mile	21.4	3,172.00	67,881
Spraying	mile	21.4	364.00	7,790
Total for 21.4 miles				$243,483
Cost per Mile				$ 11,378

No cost estimate has been developed for rehabilitating the Spring Creek structure. The physical inspection conducted by Railway Technical Services, Inc. did not identify any obvious deficiencies that would necessitate spending several million dollars in rehabilitating the structure, as reported by the owning railroad.

The total salvage value of the line was estimated to be $547,498. Pick-up costs were estimated to be $294,699 for a net salvage value of $252,799 ($11,813 per mi).

4. FUTURE FREIGHT SERVICE NEEDS

Based on the location of shippers served by this line, the need is for continued rail freight service at Lewistown. Since Lewistown can be served by any one of three different lines, retention of the Moccasin-Lewistown line is not required so long as service is retained on at least one of the other lines. (See the assessments for Line #2 and Line #3). The amount of rail traffic generated at Lewistown is not great enough to require service by two different carriers.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received over this line account for 0.01 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Present shippers can be easily served via the Milwaukee's lines into Lewistown. Present traffic volumes are insufficient to justify retention of this line as long as service is provided into Lewistown by the Milwaukee (or over Milwaukee tracks).

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Great Falls. Further service reductions to achieve substantial operating economies can only be achieved by discontinuing competitive rail service. Thus a consolidation of operations is a feasible solution.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

While the number of carloads and revenue is not large, the addition of such traffic to that already handled by the Milwaukee at Lewistown would assist in maintaining the viability of Milwaukee lines in the Lewistown area.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THIS LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are substantially less than avoidable costs.

No decision has been made by the Burlington Northern as to whether to seek the abandonment of this line. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

It is quite possible that MDH will seek federal financial assistance to rehabilitate one rail line into Lewistown (see the assessment for Line #3). While it is possible that the Moccasin-Lewistown line might be selected for this purpose, the more likely choice is the Milwaukee's Judith Gap-Lewistown Line. Retention of, or improvement of parallel lines is inappropriate. At this point, it is highly doubtful that the MDH would seek federal financial assistance for this line. (see Section 12 for a more detailed discussion of the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Rail service consolidation with the Milwaukee represents the only alternative evaluated. See the assessment for Lines #2 and #3.

In regard to continued rail service by the Burlington Northern, the investment options considered for this line were:

- Retain present rail service without rehabilitation.
- Retain present rail service and undertake a one-time rehabilitation to improve track structure such that it will fully meet FRA Track Class 2 standards for at least five years.
- Retain present rail service and undertake a one-time rehabilitation to improve the track structure such that it will fully meet FRA Track Class 2 standards for at least ten years.

Along with the above investment options, two traffic scenarios are possible.

- No traffic growth.
- Present traffic plus potential traffic, as identified in the shipper's survey. (Since there is little potential traffic, this possibility has not been evaluated.)

The results from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, operational and traffic growth possibilities.

Worksheet VIII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based upon component calculations made in determining the cost of discontinuing rail service.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 6 - Moccasin to Lewistown

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	2,687	1,860	34,346	
Retain Rail Service				
A. BN Operation (BN traffic)				
w/o Rehab.	44,121	34,013	621,800	0.06
Rehab. to Class 1	51,499	39,700	725,773	0.05
Rehab. to Class 2	60,327	46,505	850,185	0.04
B. BN Operation (BN and MILW traffic)				
w/o Rehab.	(11,835)	(9,122)	(166,794)	3/
Rehab. to Class 1	(4,457)	(3,435)	(62,821)	3/
Rehab. to Class 2	(19,270)	(14,854)	(271,576)	3/

1/ Parenthesis indicates revenues exceed costs; hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 6 - Moccasin to Lewistown

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss [3] in Affected Counties	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-34
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/
9. Attributable Revenues [6] Less Avoidable Costs	Shippers or Owing RR	-726
10. Opp. Costs Realized [7] through Abandonment	Owning RR	-464

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period. Includes BN shippers only at Lewistown.

3/ Represents primary and secondary wage loss less any increases in local trucking employment.

4/ Data not presently available.

5/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

6/ Continued operation as at present with rehabilitation to Class I standards.

7/ Net salvage value invested at nine percent interest for four years.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

The decision comes down to which carrier and rail line should be used in providing continuing rail service to Lewistown. Normally, this would be the carrier having the greatest share of the business, which in this case, would be the Milwaukee. However, in view of the Milwaukee's announced intentions to discontinue its operations west of Miles City, continued service by the Burlington Northern over this line may be necessary to ensure continued rail service into Lewistown.

The choice of which line to use in providing continued rail service depends upon (1) whether the Burlington Northern or the Milwaukee is to provide continuing service to the Lewistown market, (2) the cost of rehabilitating the various lines providing access to Lewistown, (3) the connections to the rail system and the operating efficiency of one line versus another, and (4) acquisition costs if the line selected is not presently owned by the carrier providing continuing service. If the Milwaukee turns out to be the remaining carrier, then no economic need exists for retaining the Moccasin-Lewistown rail line. If the Milwaukee seeks to pull out of the Lewistown area entirely, and assuming a willingness on the part of the Burlington Northern to serve the Lewistown market, then the decision comes down to whether acquisition of a portion of the Milwaukee's Harlowton-Lewistown line (from Judith Gap or a point further north where a new connection could be constructed between the Milwaukee tracks and the 5th Subdivision, Montana Division of the Burlington Northern) plus rehabilitation costs plus the cost of a new connection is less than rehabilitation of the Moccasin-Lewistown line or is better for operational reasons. Use of the Milwaukee line would eliminate the need to cross the Spring Creek structure to serve Lewistown.

Based on MDH calculations, the line appears to lose about $210 thousand with present traffic, (including amortization of Class 1 rehabilitation costs). Including Milwaukee traffic, the line would appear to return a profit of $18 thousand per year under the same conditions. (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $10 thousand annually and is comprised solely of increases in transport costs. The ratio of the costs of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio) is 0.05. Since this ratio is substantially less than 1.0, no economic basis exists for continuing competitive rail service on this line.

The Department will support the abandonment of this line provided that permanent arrangements are made to serve Lewistown by another carrier or the Burlington Northern operating over Milwaukee trackage.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

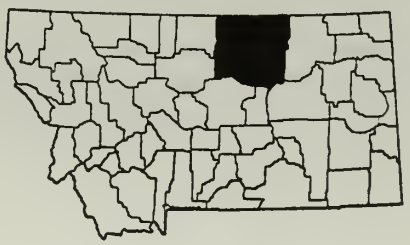
- The line by itself does not have long-term economic viability.
- The economic impacts of abandonment are small.
- Little community impact would result from abandonment.
- Abandonment causes only very small changes in energy use and environmental factors.
- The line per se is not essential to the state or regional rail network.
- Alternative modes are available.

Line 7 Hogeland to Saco

This line, the 7th Subdivision of the Burlington Northern's Montana Division, extends from Saco (on the BN's 1st Subdivision Main Line) to Hogeland, a distance of 79.3 miles in Phillips and Blaine Counties. The line is currently classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years).

LEGEND

- **Hogeland to Saco**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The twelve rail-oriented firms located along this line reported shipping approximately 277 carloads (18,560 tons) of barley and wheat to the west coast during 1978.[1/] Of this traffic, approximately 35 percent originated at Hogeland, 20 percent at Turner, 15 percent at Loring, and 30 percent at Whitewater. A decline in the volume of grain handled by grain public warehouses located along this line is thought to have occurred in recent years. The underlying cause is tariff differences between branchline stations and corresponding stations on the hi-line, which reflects the greater short line mileage from stations

Branchline Station	X-311 Rate	Corresponding Mainline Sta.	X-311 Rate	Cost Difference
Hogeland	160¢/cwt	Harlem[2/]	139 1/2¢/cwt	20 1/2¢/cwt
Turner	160¢/cwt			
Loring	160¢/cwt	)		
Whitewater	160¢/cwt	) Malta	150 1/2¢/cwt	9 1/2¢/cwt

on the Hogeland-Saco line to the west coast as compared with the mileage from hi-line stations. Efforts made by the Montana Department of Agriculture before the ICC to have rate differences reduced or eliminated have so far been unsuccessful. In addition, a number of former public grain warehouses have in recent years been sold to individuals or firms using the elevators for private grain storage. This is indicative of the fact that grain public warehouses cannot successfully compete with similar facilities located along the hi-line on account of the tariff differentials.

In past years, most of the wheat was shipped to the west coast (15%), the interior of Washington and Oregon (65%) or locally in Montana (20%). Barley shipments have been made to destinations on the west coast and in Montana.

1/ Commodity flow data supplied by the shippers located on this line.

2/ Another possibility is Dodson, which has an X-311 rate of 149 1/2¢/cwt and a cost difference of 10 1/2¢/cwt. This is only half the savings possible through using elevators at Harlem.

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1977[1]	Projected Subsidy Year Operations[2]
Attributable Revenues		
1. Freight Originated and/or Terminated On-Branch	$ 422,681	$ 457,696
2. Switching		
3. Demurrage	150	
4. All Other	3,053	3,504
5. Total Revenues Attributable	$ 425,884	$ 461,200
Avoidable Costs		
6. Off-Branch Costs	$ 199,934	$ 215,900
7. On-Branch Costs		
a. Maintenance of Way & Structures	78,716	79,300
b. Maintenance of Equipment	15,310	16,500
c. Traffic	-	-
d. Transportation	88,366	95,400
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	27,815	30,000
h. Taxes	-	-
i. Rent Income	-	-
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$ 410,141	$ 437,100
Return on Value		
9. Valuation of Property		
a. Working Capital		$ 16,800
b. Income Tax Benefits		(76,700)
c. Net Liquidation Benefits		971,200
d. Total		$ 911,300
10. Rate of Return		19.30%
11. Total Return on Value		$ 175,900
12. Estimated Subsidy Payment (not including rehabilitation)		$ 151,800

1/ Burlington Northern railroad estimates prepared by the Costs & Statistics Division, Finance Department, July 26, 1978.

2/ MDH Estimates.

3. CONDITION OF PLANT EQUIPMENT AND FACILITIES

The 7th Subdivision of the Burlington Northern's Montana Division (a former Great Northern branch originally constructed in 1928) is a single track line with a passing siding at Cole. The line runs through rolling terrain ascending approximately 950 feet before reaching the end of the line at Hogeland. Maximum gradient generally is one percent or less and maximum curvature, (with the exception of one curve) is five degrees or less. Maximum speed is 25 mph (except for a short 15 mph stretch near the Blaine-Phillips County line).

Examination of condensed profiles supplied by the Burlington Northern indicates that the line consists of second-hand 75 to 80 pound rail installed in 1928. No information is given on when surfacing and lining and tie renewal was last done, although the Department understands that some rehabilitation work was done by the Burlington Northern in 1978. Traffic over the line in recent years has been minimal, thus reducing the need for such maintenance.

This line was not inspected by the MDH. Given the 25 mph maximum speed, the line apparently meets FRA Track Class 2 conditions. Major rehabilitation would not be required for the continued operation of this line (some localized tie replacement might be required, however).

4. FUTURE FREIGHT SERVICE NEEDS

If a finding were to be reached based on present rate structures and the changes apparently taking place in the marketing and transport of wheat, there would appear to be little long-term need for rail freight service on this line. Grain that formerly utilized public grain warehouses along this line has simply shifted to elevators located along the hi-line.

Continuation of present trends will ultimately result in (a) cessation of rail service on the light density line and (b) increased dependence upon trucking to haul the grain to public warehouses located on the hi-line. Were this to take place, a concommitant requirement would be sufficient intramodal competition so as to insure maintenance of reasonable and stable local trucking rates to the farmer. Since the trucking would most likely be provided by individual owner/operators or grain dealers whose rates are unregulated, protection would depend solely on the presence of sufficient competition. Rail service will still be required to move the grain produced in the tributary area (of the light density line) to west coast markets. If this can be done more efficiently via mainline service supplemented by local trucking, then this should be the long-term solution.

Whether such a course of action is truly in Montana's long-term interest needs to be carefully considered. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economics and energy dependency, there is no guarantee that area interests will be best served over the long-term by increasing its dependence upon motor carrier transport. On the other hand, there is a very great need to restructure grain movements, bringing into being the efficiencies of scale made possible by the 100-ton covered hopper and the unit grain train. This cannot be done while at the same time preserving in pertuity the rail feeder system established in the early 1900's.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on this line account for 0.06 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Present traffic volumes are insufficient to sustain operation by a short line railroad.

Shippers have generally indicated that they would use trucking to hi-line elevators for grain movements to the west coast.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served twice a week by one locomotive (a GP-9) and a four-man local crew operating out of Glasgow. Further service reductions to achieve substantial operating economies do not appear to be possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that attributable revenues are less than avoidable costs.

No decision has been made by the Burlington Northern as to whether to seek the abandonment of this line. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is doubtful whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

In regard to continued rail service, the only investment option considered is to retain present rail service without rehabilitation. Only one traffic scenario (present traffic) has been evaluated.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, operational, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based upon component calculations made in determining the cost of discontinuing rail service.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 7 - Hogeland to Saco

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	26,514	18,395	338,938	
Retain Rail Service				
BN Operation w/o Rehab.	71,316	54,976	1,005,051	0.34

1/ Parenthesis indicates revenues exceed costs; hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 7 - Hogeland to Saco

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-339
8. Increased Highway Maintenance & Reconst. Cost	MDH	4/
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-1,005
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+1,199

1/ Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

2/ Present value over a four-year period.

3/ Represents primary and secondary wage loss less any increases in local trucking employment.

4/ Data not presently available.

5/ Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

6/ Continued operation as at present with rehabilitation to Class I standards.

7/ Net salvage value invested at nine percent interest for four years.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Although Burlington Northern records indicate that the line returns a $15 thousand per year profit, this reflects minimal maintenance of way and structures expenditures and no return on the investment. Including a higher allowance for maintenance and an appropriate return on investment, the line appears to lose about $290 thousand per year with present traffic. (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $98 thousand annually and is comprised solely of increases in transport costs. The ratio of the cost of discontinuing rail service to continuing such service (analogous to a benefit-cost ratio) is 0.34. Since this ratio is substantially less than 1.0, MDH concludes that the economic benefits achieved are insufficient to warrent the continuation of rail service, if the Burlington Northern should seek the abandonment of this line. In view of the need for Section 803 funds on other projects offering a far greater retun on the investment of federal and local funds, MDH is not optimistic that rail service can be retained on this line over the long term.

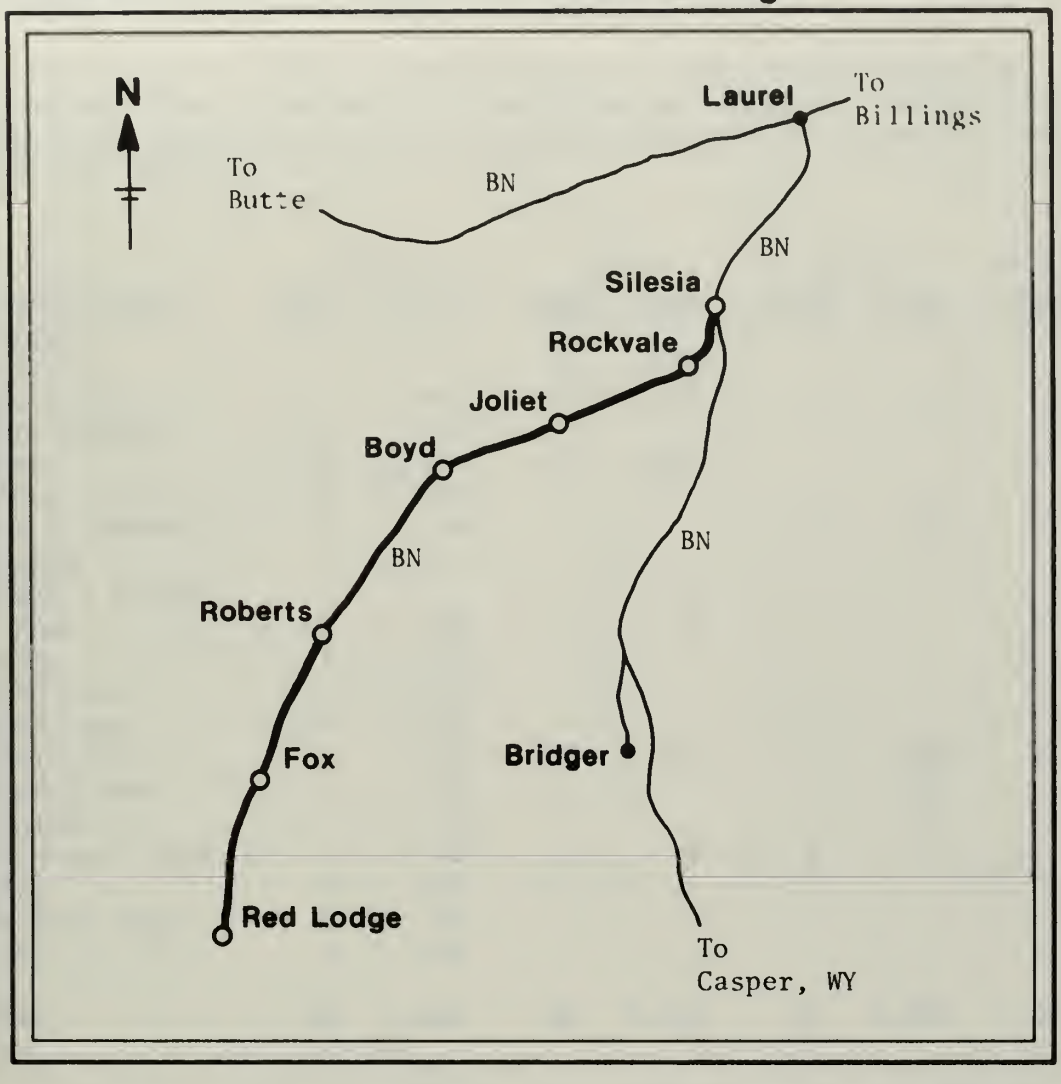
Since the line appears to be operated at a deficit, the Department anticipates that an abandonment application will ultimately be filed by the Burlington Northern. If it can be proven that the line is indeed unprofitable, as indicated by actual branchline accounts,the Department would then not oppose such an application, since a strong case cannot be made for continuing rail service, even though sizable economic and energy consumption impacts will occur.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have long-term economic viability.
- Little community impact would result from abandonment.
- The line is not essential to the state or regional rail network.
- Alternative modes are available.

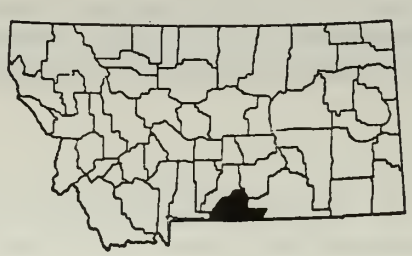
Line 8 Red Lodge to Silesia



This line, the 9th Subdivision of the Burlington Northern's Rocky Mountain Division, extends from Silesia (on the BN's 7th Subdivision Main Line) to Red Lodge, a distance of 34.5 miles in Carbon County. By application filed May 18, 1978, the Burlington Northern is seeking authority to abandon the entire line. Consequently, this line is classified as ICC Systems Diagram Category 3 (pending abandonment).

LEGEND

- **Red Lodge to Silesia**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

Rail-oriented firms located along this line reported shipping 14 and receiving 23 carloads of the following commodities during the first nine months of 1978 (corresponding data are also shown for 1975, 1976, and 1977).1/

	1975		1976		1977		1978(Jan.-Sept.)	
Commodity Type	Cars	Tons	Cars	Tons	Cars	Tons	Cars	Tons
Outbound								
Barley			3	246				
Canned Peas	17	866	21	1,107				
Empty Barrels	1	2						
Wheat	23	2,160	28	2,677			14	1,168
Wooden Pallets	2	36						
Wool-in-Grease	2	30			1	20		
Inbound								
Animal & Poultry Feed	1	30	1	33				
Barley	1	83						
Cross Arms	1	29						
Empty Cans	24	290						
Fertilizer	8	725	13	1,253	15	1,462	21	2,034
Mineral Wool	3	38			2	24	1	9
Machinery	2	25					1	29
Petroleum Products	1	30	2	48	1	30		
Poles	5	187						
Electric Cable	1	35						
Salt	2	103						
Total	94	4,669	68	5,364	19	1,536	37	3,240

As can be seen from the above data, traffic declined in 1976 and 1977 and increased somewhat in 1978. The decline is due to (1) the closing of the Red Lodge Canning Company in late 1975, and (2) federal grain storage programs which have had the effect of withholding grain from markets for a three-year period. The traffic volumes shown represent minimal traffic on a 34.5 mile line. The primary shipper is a feed and grain dealer located at Red Lodge and Roberts. The use of rail service by this shipper has fluctuated considerably in recent years; less than half of grain shipments have gone by rail between 1976 and 1979. Of the rail shipments made, all were destined to the west coast or the interior of Oregon and Washington. During this period truck shipments were likewise made to these same destinations plus Idaho and locally in Montana. Although rail shipments apparently increased considerably in 1978 and 1979, the circumstances surrounding this modal change are unknown.

1/ Commodity statistics supplied by the Burlington Northern. See abandonment application AB-6 (Sub. No. 52F), verified statement of Robert E. Taylor, Jr., Exhibit No. 5.

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1977[1]	Jan.-Sept. 1978[1]	Projected Subsidy Year Operations[2]
Attributable Revenues			
1. Freight Originated and/or Terminated On-Branch	$21,369	$45,372	$22,348[3]
2. Bridge Traffic	-	-	-
3. Demurrage	-	-	-
4. All Other	6,467	6,286	6,467
5. Total Revenues Attributable	$27,836	$51,658	$28,815
Avoidable Costs			
6. Off-Branch Costs	$ 8,451	$18,200	$ 8,838[3]
7. On-Branch Costs			
a. Maintenance of Way & Structures	23,634	13,065	34,520
b. Maintenance of Equipment	699	965	746
c. Traffic	-	-	-
d. Transportation	7,305	7,368	7,903
e. Miscellaneous General	-	-	-
f. Miscellaneous Operations	683	1,039	733
g. Fringe Benefits	5,522	2,976	5,978
h. Taxes	22	11	23
i. Rent Income	-	-	-
j. Rent Costs	-	-	-
k. Bridge Traffic Rerouting	-	-	-
8. Total Avoidable Costs	$46,316	$43,624	$58,746
Return on Value			
9. Valuation of Property			
a. Working Capital			$ 1,672
b. Income Tax Benefits			(41,139)
c. Net Liquidation Benefits			1,354,200
d. Total			$1,314,733
10. Rate of Return			19.30%
11. Total Return on Value			$ 253,743
12. Estimated Subsidy Payment (not including rehabilitation)			$ 283,962

1/ Source: Burlington Northern abandonment application AB-6 (Sub. No. 52F), verified statement of Robert E. Taylor, Jr., Exhibit No. 3 and

2/ Source: Burlington Northern abandonment application AB-6 (Sub. No. 52F), Application and Supplemental Environmental Evaluation, May 18, 1978, Exhibit F.

3/ Based on 1977 traffic. If based on 1978 traffic, the estimated subsidy payment would have been approximately $20,000 less.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 9th subdivision of the Burlington Northern's Rocky Mountain Division (a former Chicago, Burlington, & Quincy Railroad branch) is a single track line with passing sidings at Roberts, Joliet, and Silesia. The line runs through mountainous terrain with a 1.9% ruling grade descending towards Red Lodge. Maximum speeds are 35 mph between Silesia and Joliet and 30 mph between Joliet and Red Lodge.

A physical inspection of the line was conducted by Railway Technology Services, Inc. for the MDH during June, 1979 with quantitative data samples being taken at five locations and qualitative spot checks at several additional locations to verify the consistency of track work and conditions. The line was found to be in fairly good condition; the major deficiency being required tie renewals.

The cost of rehabilitating the track to fully meet FRA Track Class 1 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	4,484	$ 23.00	$103,132
Joint Tightening	mile	34.6	288.00	9,965
Replace Tie Plates	each	498	3.85	1,917
Turnout Rehabilitation	each	13	588.00	7,644
Switch Ties Replace.	in. ft.	2,964	8.20	24,305
Light Ballast Dump	cu. yd.	17,451	6.60	115,177
Spot Tamping	mile	34.6	991.00	34,288
Spraying	mile	34.6	364.00	12,594
Total for 34.6 miles				$309,022
Cost per mile				$ 8,931

The cost of rehabilitating the track to fully meet FRA Track Class 2 conditions is as follows:

Description	Unit	Quantity	Unit Price	Cost
Cross-tie Replacement	each	11,360	$ 23.00	$261,280
Joint Tightening	mile	34.6	288.00	9,965
Replace Tie Plates	each	498	3.85	1,917
Turnout Rehabilitation	each	13	294.00	7,644
Switch Ties Replace.	in. ft.	2,964	8.20	24,305
Light Ballast Dump	cu. yd.	12,133	6.60	80,078
Full Ballast Dump	cu. yd.	25,420	6.60	167,772
Surfacing & Lining	mile	34.6	3,172.00	109,751
Spraying	mile	34.6	364.00	12,594
Total for 34.6 miles				$675,306
Cost per mile				$ 19,518

The total salvage value of the line was estimated to be $807,988. Pick-up costs were estimated to be $476,477 for a net salvage value of $331,511.

4. FUTURE FREIGHT SERVICE NEEDS

Were the future simply a continuation of past traffic patterns, then there would be little need to retain this line.

The Red Lodge to Silesia line is located in an area which at one time was the principal coal mining region in Montana. Recently, the Beartooth Coal Company, Inc. (BCC) applied to the Montana Department of State Lands for an underground mining permit to reopen the old Brophy Mine (closed in 1959), located approximately three miles east/southeast of Red Lodge. On July 10, 1978, the Department issued a Preliminary Environmental Review[1/] which concluded that the issuance of a permit to BCC does not constitute an action which might significantly affect the quality of the human environment. On July 13, 1978, the Department issued Mine Operating Permit 78010 to BCC.[2/] Presently, BCC is preparing the mine and assembling necessary mining equipment. The company expects to begin test shipments to prospective customers by mid-August with initial production beginning in the Fall. Production is expected to begin at the rate of approximately 1,000 tons per week increasing to approximately 5,000 tons per week within two or three years of start up. Ultimate production levels are expected to be in the order of one to two million tons per year. Initially, the coal will be marketed to industrial users in Montana and the Pacific Northwest. The mine is being developed in anticipation of sales to yet-to-be developed coal-fired electric generating plants in the northwest. The existing coal seam has a sulfur content between 0.89 and 1.5 percent, a moisture content of 10 to 11 percent, and a BTU content around 11,000. While this mine has yet-to-begin commercial operations, the investments made to date give strong evidence that coal traffic will eventually materialize, although the production rates may vary from those anticipated by BCC.

Historically, coal from the Brophy Mine was trucked to Red Lodge (4.5 miles from the mine/mouth) for loading into rail cars. Given the initial production level of 600 carloads per year increasing within several years to 3,000 carloads (and potentially increasing to 15,000 carloads per year if and when a long-term contract is executed with a public utility), one would think that this amount of traffic would be enough to ensure retention of the line, at least until the long-term production pattern of the BCC operations could be determined.

1/ Contents specified by the Montana Environmental Policy Act (Chapter 65, Title 69, R.C.M. 1947) and Department rules adopted pursuant thereto (Title 26, Chapter 2, Subchapter 18 of A.R.M.).

2/ This permit was suspended on September 22, 1978 and development work halted until certain infractions had been corrected. The suspension order was stayed on January 9, 1979 with development work resuming at that time.

Mitigating against the projected traffic figures is the fact that no coal purchase contracts have been negotiated nor have any rail tariffs for transporting coal been established. This cannot be done until mine development has advanced to the point that test samples can be forwarded to potential customers for their analysis and purchase decision. Thus, the Burlington Northern still considers the reinstitution of coal mining in the Red Lodge area to be speculative. Were coal traffic to develop, the railroad argues that it can be handled using their line to East Bridger, located 26 miles from the mine site.

There is no question that rail service will be needed to transport at least a major portion of the coal to industrial consumers and all of the coal that may eventually be required by utilities. The disagreement comes over whether the Red Lodge to Silesia Line is all that essential. Both BCC and the Burlington Northern are seeking to minimize their operating costs. The former requires the Red Lodge to Silesia Line to accomplish this purpose, whereas the latter seeks the elimination of unnecessary trackage.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Products shipped or received on this line account for 0.01 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would appear to be small. However, this finding is misleading in that abandonment would affect to some degree (1) the viability of future coal mining operations to the extent that this results in higher transshipment costs between the mine/mouth and the closest railhead, due to the increased distance, and (2) state expenditures for maintaining and improving routes used for hauling coal. Were the Silesia to Red Lodge Line retained, the local coal haul would be over Route 308 between Bearcreek and Red Lodge, a route scheduled for an oil and stone seal coat this summer. The present highway structure is considered inadequate to sustain concentrated heavy truck movements without future reconstruction.1/ Abandonment of this line would necessitate the use of Route 308 between Bearcreek and Belfry and Route 72 between Belfry and Bridger. The latter would also have to be reconstructed, should substantial coal traffic materialize. From the state highway perspective, abandonment of the Silesia to Red Lodge Line would trigger state capital expenditures at an earlier point in time as well as increased maintenance expenditures stemming from the use of heavily laden vehicles to transport coal.

1/ See "Highway Impact Analysis of the Proposed BN Abandonment - Silesia to Red Lodge Spur", prepared by the MDH Rail Planning Unit for the Montana Consumer's Council, February 2, 1979. .

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Present traffic volumes are insufficient to sustain operation by a shortline railroad, nor could such operation be sustained with the addition of industrial coal traffic envisioned initially. A shortline operation would appear viable should traffic reach 3,000 carloads annually (or above). However, it would probably be in the Burlington Northern's interest to provide the required rail service, rather than sharing revenues and interchanging traffic with a shortline operator. This is especially true were the coal mining operation to reach a volume level suitable for unit coal trains.

Shippers have indicated that they would use trucking in lieu of rail. Local farmers would probably sell their wheat through an area grain dealer, who would truck the product to the Port of Lewiston and barge transport to reach the west coast. Fertilizer would probably be brought in by truck from dealers or unloading facilities in or around Billings.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Laurel. Further service reductions to achieve substantial operating economies do not appear possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line at this time, although such action might be considered as a means of preserving future rail access to the Red Lodge area should it become apparent that the production of coal from Beartooth Mine (and others) will reach a level appropriate to the use of unit coal trains.

10. FUTURE OF LINE SUBSEQUENT TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using the RSPO costing system indicate that the attributable revenues are less than the avoidable costs. However, this factor is minor compared with the return on investment foregone by continuation of this light density line.

By application dated May 18, 1978, the Burlington Northern is seeking ICC authority to abandon this line. Under recent revisions to the Section 803 program, federal financial assistance is available for enhancing the viability of the line or mitigating the effects of this and similar lines. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation or substitute service are required to be the subject of a benefit-cost analysis resulting in the selection of those projects offering the highest benefits.)

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No non-rail alternatives other than abandonment have been evaluated. Continued rail service alternatives include present traffic plus the addition of 600, 3000, or 15,000 carloads of coal annually.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Burlington Northern branchline account records indicate that the line incurs a $20 thousand per year loss, not including return on investment (using RSPO guidelines, the railroad-computed return on value is $254 thousand annually). Including a higher allowance for maintenance of way and structures (branchline account data indicate only minimal maintenance expenditures) and a return on investment, the line appears to lose about $195 thousand per year with present traffic. Including the coal production envisioned by the Beartooth Coal Company (600 carloads in the first year and 3,000 carloads by the third year), the line would lose about $291 thousand in the first year (without rehabilitation) and return a profit (with Class 2 rehabilitation) of approximately $253 thousand in the third year. A further traffic increase to 15,000 carloads annually would produce a profit of over $2 million (after allowing for upgrading to Class 3 standards by replacing existing light rail with CWR relay rail). (Worksheet VI presents these estimates as present values for the first and final quarter and as a four-year total.)

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 8 - Red Lodge to Silesia

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	310	215	3,958	
Retain Rail Service				
A. BN Operation (with Present Traffic)				
w/o Rehab.	40,234	31,016	567,017	0.01
Rehab. to Class 1	47,807	36,854	673,742	0.01
B. BN Operation (with an additional 600 carloads of coal)				
w/o Rehab.	71,403	55,043	1,006,281	N.A.
Rehab. to Class 2	78,021	60,145	1,099,547	N.A.
C. BN Operation (with an additional 3,000 carloads of coal)				
Rehab. to Class 2	(62,133)	(47,897)	(875,645)	3/
Upgrade to Class 3[4/]	5,680	4,379	80,044	N.A.
D. BN Operation (with an additional 15,000 carloads of coal)				
Rehab. to Class 2	(712,801)	(549,482)	(10,045,442)	3/
Upgrade to Class 3[4/]	(644,988)	(497,206)	(9,089,754)	3/

1/ Parenthesis indicates revenues exceed costs; hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

4/ Includes replacing existing rail with 115 or 130 pound CWR relay rail estimated at $200,000 per mile amortized over 25 years.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 8 - Red Lodge to Silesia

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss [3] in Affected Counties	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-4
8. Increased Highway Maintenance & Reconst. Cost	MDH	[4]
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-674
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+580

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished
[2] material.

Present value over a four-year period. Present traffic.

[3] Represents primary and secondary wage loss less any increases in local trucking employment.

[4] Data not presently available.

[5] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[6] Continued operation as at present with rehabilitation to Class I standards.

[7] Net salvage value invested at nine percent interest for four years.

There are, however, other factors which enter into a decision on the Red Lodge to Silesia Line.

1. BN has in the past considered BCC's coal projections as speculative and not attainable within the anticipated time frame. This stems from (a) optimistic and often unrealistic production forecasts typically made by mining companies, (b) the rather drastic tapering off in the rate at which coal reserves are being developed in Montana, (c) the fact that no firm commitments have been made by potential customers to purchase the coal, and (d) a lack of information. While BN has stated that it must know whether the proposed coal production is viable, it never did specify to BCC the type of "sufficient, reliable, and verifiable information" required to accurately assess the impact of BCC's coal operation on this line. BN apparently was looking for firm commitments at a point in time when such commitments are impossible (sales contracts are generally not negotiated until, at least, test samples can be supplied). This requirement placed BCC in a difficult position.

2. BN has argued that there is no proof that the generated coal traffic will make the line profitable. Again, lack of information on (1) destinations, (2) tonnages, (3) temporal variation, and (4) car supply do make it difficult for BN to precisely estimate potential revenues, off-branch and on-branch costs. BN has also questioned whether the profit from coal traffic is sizeable enough to cover an estimated $414,000 in deferred maintenance needs. In response, BCC has commissioned analyses to determine the traffic required for breakeven operations. Using data available to the public sector (e.g., Rail Form A) plus assumptions on tariffs, these computations yield a breakeven point at 251 carloads per year (204 carloads of coal plus 45 carloads of other commodities). From BN's perspective, any rail-oriented coal traffic that may emerge from BCC's operations has to go via BN. Diverting this traffic to East Bridger makes economic sense in that it elimates all costs associated with keeping the Red Lodge to Silesia Line in operation.

3. Recognizing the dilemma posed by BN's desire for hard evidence, BCC at one point proposed that the proceedings be stayed for a sufficient period of time during which the development of the Brophy #2

reserves will firmly establish the necessity and profitability of maintaining the line.[1] Curiously enough, BN rejected this concept, insisting that the decision on public convenience and necessity must be made now.[2]

4. From the state perspective, any rail line abandonment which would eliminate the ability to commercially exploit the state's coal reserves should be avoided. Of prime concern and interest is the development of jobs and personal income brought about by mining ventures such as BCC.

5. Finally, MDH computations indicate that the resulting increase in truck volumes along Routes 308 and 72 to East Bridger over a two- or three-year period will (a) drastically shorten the life of the existing pavement, thus accelerating required resurfacing or reconstruction projects, and (b) shorten the life expectancy of replacement pavements. This obviously will impact upon state construction and resurfacing programs to the extent that other projects may have to be delayed or postponed if the reconstruction of Routes 308 and 72 is accelerated. Funding for such projects would come from the federal highway trust fund and state gas and ton mile tax monies already being used to finance highway projects across the state, thus spreading these resources even thinner.

MDH concludes that abandonment of the Red Lodge to Silesia Line at this time would be premature. The Department recommends that both parties enter into honest negotiations to achieve a solution whereby (1) the financial interests of the railroad are protected, (2) the line (or at least the right-of-way) is preserved for future rail access into the area, should coal production require more direct rail access, and (3) excessive use of the state highway system by heavily laden coal trucks is avoided, thus eliminating undue financial burdens on the state. If after a reasonable period of time (say one to two years) the coal traffic does not develop or develops at a rate far less than that projected by the coal company, then the Department would not oppose the abandonment of this line.

This abandonment is being processed under the ICC's modified procedure; all statements and briefs have already been filed. The above assessment may be moot if the ICC reaches a decision that public convenience and necessity permit the abandonment of this line.

1/ Verified statement of Jim Kelley, Operating Vice President, Beartooth Coal Company, Docket No. AB 6 (Sub. No. 52F), p. 9.

2/ Reply verified statement of John O. Davies, Vice President, BN Billings Region, February 28, 1979, p. 4.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

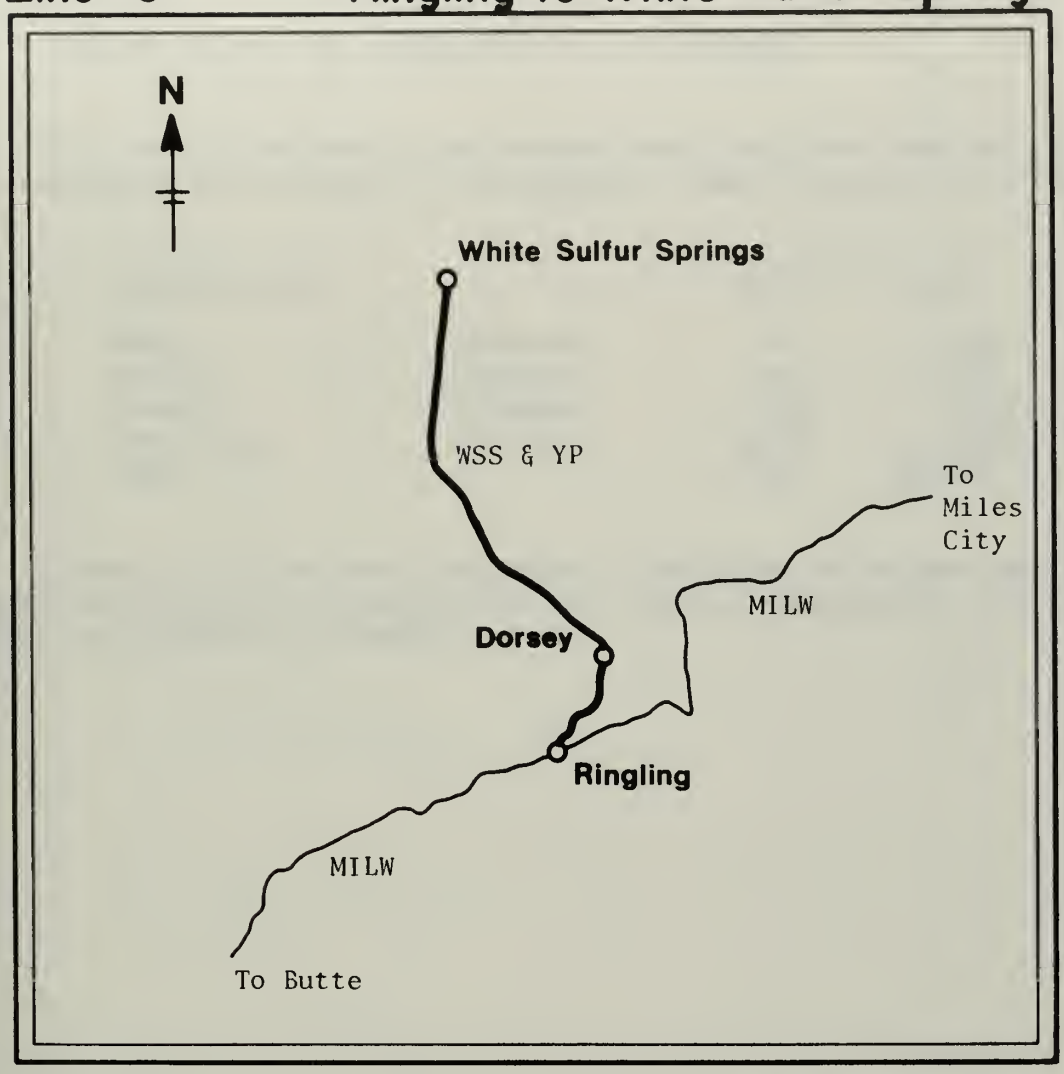
The decision to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- Provided that the coal traffic materializes as estimated by the Beartooth Coal Company (100,000 tons annually initially, 250,000 tons annually within three years), the line does have long-term economic impact.

- Abandonment would cause severe impacts upon the highway system if the projected coal production materialized. Coupled with this would be a significant increase in energy use and other environmental factors.

- Although present economic impacts are nil, abandonment would adversely affect the long-term viability of this coal mining operation, and ultimately result in fewer economic benefits to the local community and the state as a whole.

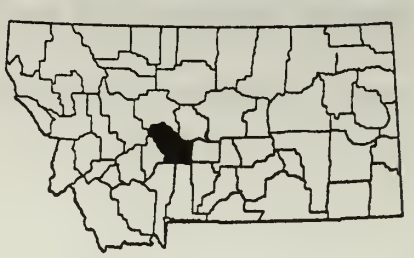
Line 9 Ringling to White Sulfur Springs



This line, of which 3.5 miles is owned by the Chicago, Milwaukee, St. Paul and Pacific Railroad and the remainder by the White Sulfur Springs and Yellowstone Park Railroad, extends from Ringling (on the Milwaukee's 4th Subdivision Main Line) to White Sulfur Springs, a distance of 22.8 miles in Meagher County. By application filed August 18, 1978, the Milwaukee is seeking authority to abandon the portion between Ringling and Dorsey presently leased, operated and maintained by the White Sulfur Springs and Yellowstone Park Railroad. Consequently, this portion of the line is classified as ICC Systems Diagram Category 3 (pending abandonment). The remainder of the line has no ICC Systems Diagram classification, since the carrier is a Class 2 railroad.

LEGEND

- **Ringling to White Sulfur Springs**
- **Other Lines**
- O **Freight Station**
- • **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The two rail-oriented firms located along this line reported shipping approximately 480 carloads of the following commodities during 1977.1/

Commodity Type		1977 Cars	1977 Tons
Wheat	Outbound	61	4,100
Barley	Outbound	19	1,300
Lumber	Outbound	4 2/	160 2/
Wood Chips	Outbound	692 2/	51,200 2/
Total		776	56,760

Almost all of the wheat and barley is destined to the west coast. Lumber shipments were to midwestern and eastern destinations. The wood chips were shipped to Missoula.

1/ 1977 was considered a more typical year than 1978 when wheat and barley shipments dropped off to 32 carloads. The lumber company reported shipping 4 carloads of lumber and 692 carloads of wood chips during 1978.

2/ MDH estimate based on 1977 R-2 Annual Report and shippers' survey information.

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1977[1/]
Attributable Revenues	
1. Freight Originated and/or Terminated On-Branch	$ 119,041
2. Bridge Traffic	
3. Demurrage	
4. All Other	
5. Total Revenues Attributable	$ 119,041
Avoidable Costs	
6. Off-Branch Costs	$ -
7. On-Branch Costs	
a. Maintenance of Way & Structures	36,191
b. Maintenance of Equipment	2,140
c. Traffic	7,603
d. Transportation	22,374
e. Miscellaneous General	18,524
f. Miscellaneous Operations	
g. Fringe Benefits	
h. Taxes	
i. Rent Income	
j. Rent Costs	6,850
k. Bridge Traffic Rerouting	
l. Contingencies	
8. Total Avoidable Costs	$ 93,682
Return on Value	
9. Valuation of Property	
a. Working Capital	
b. Income Tax Benefits	
c. Net Liquidation Benefits	
d. Total	
10. Rate of Return	
11. Total Return on Value	
12. Estimated Subsidy Payment (not including rehabilitation)	

1/ R-2 Annual Report filed by the WSS & YP for 1977.

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The Ringling to White Sulfur Springs line consists of a 3.6 mile segment between Ringling and Dorsey owned by the Milwaukee and leased to the White Sulfur Springs & Yellowstone Park Railway Company (WSS & YP) and a 19.2 mile segment owned by the WSS & YP.

Neither the Milwaukee nor the WSS & YP portions of the line were inspected by MDH, although the Milwaukee did inspect the portion under lease in preparing an abandonment application.[1/] The remainder of the line is probably in similar condition. The track consists of 65-pound rail laid around 1915. The Milwaukee considers the rail worn, but in serviceable condition. Joint bars are considered to be in fair to good condition. Cross-ties are a mixture of about half hardwood and half softwood ties ranging in age from 25 to 30 years. The Milwaukee estimates that about a quarter of the ties will have to be replaced over the next five years. Ballast consists of pit run gravel. Track and surface is considered to be fair to good as is the general track condition.

Maintenance of way expenditures in recent years have been minimal. The Milwaukee considers extensive rehabilitation necessary if service is to be maintained on this line over the long term. The cost of rehabilitating the Ringling to Dorsey portion of this line over a five-year period has been estimated by the Milwaukee as follows:

Description	Unit	Quantity	Unit Cost Material	Unit Cost Labor	1st Year Cost
Rail Replacement	trk ft	660	$ 2.83	$ 2.55	$ 3,553
Cross-tie Replacement	each	418	13.00	8.50	8,987
Ballast	cu yd	250	4.30	8.50	3,200
Other Track Material	lot	1	1,100.00		1,100
Align and Surface	mile	0.30		45.00	1,350
Repair Grade Crossings	ft.				-
Bridge & Culvert Work	lot	1	800.00	800.00	1,600
Weed & Brush Control	mile	3.48	175.00	95.00	940
Miscellaneous Expense	-				2,921
Total (including 10% for contingencies)					$ 26,016

Similar rehabilitation costs of $28,097, $30,345, $32,772, and $35,395 are estimated for 1980 through 1983, thus producing a total rehabilitation estimate of $152,625 for 3.5 miles of track ($43,858 per mile). The net salvage value of the 3.5 mile segment is estimated to be $39,091 thousand and the value of the right-of-way to be $12,400 thousand. Assuming these estimates are characteristic of the entire line, Class 1 rehabilitation would cost approximately $3.5 million.

1/ Milwaukee abandonment application AB-7 (Sub. No. 66F), Exhibit 5, Appendix A, August 18, 1978.

4. FUTURE FREIGHT SERVICE NEEDS

As long as rail service is provided, both shippers are likely to continue to use rail to the extent that they can obtain empty cars as needed. The WSS&YP does not own freight cars of its own, but rather depends upon the Milwaukee (as the connecting carrier) to supply the required cars. Both shippers utilize truck for some grain and wood chip shipments. Any growth in rail traffic depends directly upon whether the lumber company chooses to expand the scale of operations (or shift present truck shipments to rail) and the vicissitudes of the weather and other factors affecting the production of wheat and barley in the local area.

So far, the WSS&YP apparently has been a modestly profitable operation; to the extent that traffic remains at, or exceeds, 1977 levels and the Milwaukee continues to serve Ringling, continuation of rail service should remain viable or at least a break-even proposition. The future of this line really rests upon whether the Milwaukee (or some other carrier) continues to serve Ringling, rather than on the profitability of the Class 2 carrier, per se. The present traffic base, which is marginal for a 23-mile line, becomes untenable if acquisition of Milwaukee mainline trackage becomes necessary to retain rail system connections.1/ Under such circumstances, there would be little long-term need for rail freight service on this line. Even were the Milwaukee to remain, present car supply and transit time reliability problems would have to be solved to enable the WSS&YP to capture rail's traditional share of the grain and wood chip traffic.

One note of caution. Once rail service ceases, there is very little possibility for its future restoration. In the face of changing modal economies and energy dependency, there is no guarantee that area interests will be best served over the long-term by total dependence upon motor carrier transport.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

0.02 percent

Products shipped or received on this line account for 0.02 percent of all traffic originating or terminating in Montana in 1978. Thus, the impact of abandonment on the transportation needs of the state would be minimal.

1/ The profitability of the WSS&YP may have decreased in 1978 with the downturn in traffic. The R-2 annual report for 1978 was unavailable to MDH in July, 1979.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line.

The impact of substituting motor carrier transport varies by shipper. The grain public warehouse would probably use truck/barge for wheat shipments to the west coast and shift barley marketing to Montana destinations accessible by truck. The lumber manufacturer would probably shift over entirely to truck for wood chip shipments and change lumber marketing to regional markets accessible by truck.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line has, in the past, been served on an as-needed basis by one locomotive and a two-man local crew operating out of White Sulfur Springs. In 1977, approximately 110 round trips were made on the branchline.1/ Further service reductions to achieve substantial operating economies do not appear to be possible.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF THE LINE IN RELATION TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using RSPO costing principles indicate that under present conditions attributable revenues do exceed avoidable costs by a small amount.

By application dated August 18, 1978, the Milwaukee is seeking ICC authority to abandon a 3.5 mile segment leased to the WSS&YP. Under recent revisions of the Section 803 program, federal financial assistance is available for enhancing the viability of light density lines or mitigating the effects of abandonment. Financial assistance can be

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1/ MDH estimate based on annual locomotive unit miles reported in the 1977 R-2 Annual Report.

used in subsidizing operations, acquisition, rehabilitation or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis process resulting in the selection of those projects offering the greatest return.)

At this point, it is doubtful whether MDH would seek federal financial assistance for this line (see Section 12 for the reasoning involved).

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No non-rail alternatives other than abandonment have been evaluated.

Several scenarios for continued rail operations were analyzed. The three investment options considered were:

- Retain present rail service without rehabilitation.
- Undertake a one-time rehabilitation (using FRA and local funds) to improve the track structure such that it will fully meet FRA Track Class 1 standards for at least five years.
- In addition to the above track rehabilitation, WSS&YP acquisition and operation of the portion of the Milwaukee mainline extending from Logan to Ringling. This scenario assumes Milwaukee abandonment of its northwest extension and the necessity of acquiring 56.9 miles of Milwaukee trackage in order to connect with the Burlington Northern. No rehabilitation costs have been included, since the line consists of 112 and 115 pound rail maintained presumably to FRA Track Class 3 or 4 conditions (line assumed capable of 25 mph operation).

Only one traffic level (1977 carloads) has been evaluated. This represents a relatively optimistic picture of traffic available to the WSS&YP.

The results obtained from evaluating the above options/scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing rail service. The latter is essentially a benefit-cost ratio showing the economic efficiency of various investment, ownership, and traffic growth possibilities.

Worksheet VII presents a distributional analysis of the gains and losses experienced by various groups over a four-year period, were rail service discontinued. The figures are based on component calculations made in determining the cost of discontinuing rail service.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

WSS&YP Railway records indicate that the line incurs a $25 thousand per year profit, not including return on investment (the latter has been estimated to be approximately $37 thousand). Including a considerably higher allowance for maintenance of way and structures and a return on investment, the line appears to lose about $29 thousand per year with present traffic (including amortization of Class 1 rehabilitation costs). (Worksheet VI presents these estimates as present rates for the first and final quarter and as a four-year total).

So long as the Milwaukee continues to operate its mainline and major maintenance of way and structures can be postponed, the line should continue to earn a modest profit. If the Milwaukee abandons its mainline, the WSS&YP would be forced to acquire or lease the trackage between Logan and Ringling (in addition to the trackage presently owned by the Milwaukee between Ringling and Dorsey). With an expanded rail line, the line appears to lose about $126 thousand per year with present traffic plus 92 carloads of grain originating at Ringling.1/

The cost of discontinuing rail service (community impacts) for the line amounts to approximately $94 thousand annually and is comprised solely of transport cost increases. The ratio of the costs of discontinuing rail service to those of continuing such service (analogous to a benefit-cost ratio) is 3.3 for the present system and 0.65 for an expanded system. Thus, economic and social arguments could be made for continuing rail service. However, in view of the need for Section 803 funds on other projects offering far greater economic benefits, MDH is not optimistic that rail service could be retained on this line, especially if the Milwaukee mainline is abandoned.

The Department anticipates that the Milwaukee will file an abandonment application for its connecting line at Ringling. Since the WSS&YP is a profitable operation, the Department will seek the transfer of necessary connecting trackage to the Burlington Northern or the WSS&YP so that uninterrupted rail service can continue. Whether the latter can afford to purchase the 3.5 mile segment owned by the Milwaukee plus the Main Line remains questionable.

1/ No lease or amortized purchase cost has been included for the additional Milwaukee trackage. Since this trackage is presently the "main line", no rehabilitation costs have been included. Some additional traffic may be available to the WSS&YP from present Milwaukee stations.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 9 - Ringling to White Sulfur Springs

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	25,452	17,658	325,369	
Retain Rail Service				
A. WSS&YP Operation (with Present Traffic)				
w/o Rehab.	2,464	1,899	34,726	9.37
Rehab. to Class 1	7,015	5,408	98,868	3.29
B. WSS&YP Operation (Extended System, Present Traffic)				
w/o Rehab.	31,211	24,058	439,830	0.74
Rehab. to Class 1	35,762	27,567	503,972	0.65

1/ Parenthesis indicates revenues exceed costs; hence the alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VII
DISTRIBUTIONAL ANALYSIS

Line 9 - Ringling to White Sulphur Springs

Component Impact [1]	Affected Group	Gain/Loss ($000[3]) [2]
1. Wage and Salary Loss in Affected Counties [3]	General Populace	0
2. Offsetting Gains Elsewhere in Montana	Other Counties	0
3. Loss in Local Purchases in Affected Counties	Business Community	0
4. Offsetting Gains Elsewhere in Montana	Other Counties	0
5. Unemployment Payments	Employers throughout Montana	0
6. Income Tax Loss	State Government	0
7. Transport Cost Increase [5]	Shippers	-325
8. Increased Highway Maintenance & Reconst. Cost	MDH	[4]
9. Attributable Revenues Less Avoidable Costs [6]	Shippers or Owing RR	-99
10. Opp. Costs Realized through Abandonment [7]	Owning RR	+185

[1] Source for most date items: Worksheet III - Cost of Discontinued Service. Unpublished material.

[2] Present value over a four-year period.

[3]

[4] Represents primary and secondary wage loss less any increases in local trucking employment.

[5] Data not presently available.

[6] Represents an average of local trucking to nearby elevators and trucking all the way to the ultimate destination (or a river port for continuing movement by barge) for grain movements

[7] Continued operation as at present with rehabilitation to Class I standards.

Net salvage value invested at nine percent interest for four years.

13. RELATIONSHIP OF DECISION TO EVALUATE CRITERIA

The decision to oppose abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

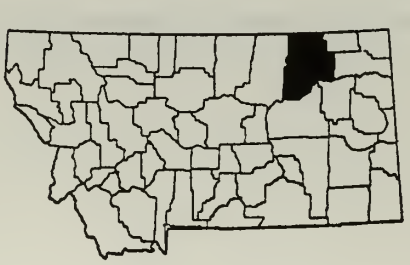
- The line is profitable, thus it has economic viability.
- The WSS&YP would be adversely affected, were the connecting trackage abandoned.

Line 10 Glasgow to Glasgow AFB

This Burlington Northern industrial track extends from Glasgow (on the BN's Montana Division - 1st Subdivision Main Line) to the Valley Industrial Park (formerly the Glasgow Air Force Base), a distance of 18.8 miles in Valley County. The line is currently classified as ICC Systems Diagram Category 1 (abandonment anticipated within three years).

LEGEND

- **Glasgow to Glasgow AFB**
- **Other Lines**
- **Freight Station**
- **Other Station**



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

This line was originally constructed in the mid 1950's to provide rail access for jet fuel and building supplies to the Glasgow Air Force Base. In 1968, the Department of Defense announced its intention to gradually phase out the air base, a process which was not completed until the mid 1970's. During the mid to late 1970's little activity took place at the air force base due to the fact that potential users of facilities located on the base could only make short-term lease arrangements (with a 30-day cancellation clause) and uncertainty over whether the base was to be retained as a reserve (or mothballed) facility or was to be sold or transferred to another governmental agency. During this period, care and maintenance contracts were negotiated at different times with both a private vendor and Valley County for the airfield and commercially usable structures and facilities located on the base. In April, 1979 the base (less the family housing units) was conveyed to Valley County, which in turn established the Valley Industrial Park Corporation to manage and operate the air base as an industrial park.

Considerable efforts have been made in the past to find potential tenants for the structures and facilities. During the mid 1970's, a developer was hired to encourage commercial firms to relocate to the air force base. The developer was not particularly successful primarily because of the uncertain future of the base. Since then, promotional and development activities have been taken over by the corporation established by the County. The County has received EDA approval for a $1 million grant to install individual, oil-fired heating units in the structures suitable for commercial use, thus eventually eliminating the need to operate a centralized heating system.

While some use is being made of the available facilities, none of the uses to date have resulted in significant rail traffic. Commercial usage today consists of (1) an alcoholism rehabilitation program occupying part of the base hospital, (2) a youth corps-family training program, (3) a meat packer utilizing some of the cold storage facilities, and (4) an air-frame manufacturer utilizing the airfield for pilot training as an alternative to Moses Lake. In 1978, the Burlington Northern made seven trips (all in the fourth quarter) to the base, handling perhaps 10 to 15 carloads of traffic.

Past traffic and the characteristics of present tenants are not an appropriate indicator of future rail freight traffic, however.

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1978[1/]
Attributable Revenues	
1. Freight Originated and/or Terminated On-Branch	$ 10,000
2. Bridge Traffic	
3. Demurrage	
4. All Other	
5. Total Revenues Attributable	10,000
Avoidable Costs	
6. Off-Branch Costs	6,000
7. On-Branch Costs	
a. Maintenance of Way and Structures	6,000
b. Maintenance of Equipment	400
c. Traffic	
d. Transportation	1,800
e. Miscellaneous General	
f. Miscellaneous Operations	
g. Fringe Benefits	800
h. Taxes	
i. Rent Income	
j. Rent Costs	
k. Bridge Traffic Rerouting	
8. Total Avoidable Costs	15,000
Return on Value	
9. Valuation of Property	
a. Working Capital	1,000
b. Income Tax Benefits	(20,000)
c. Net Liquidation Benefits	600,000
d. Total	581,000
10. Rate of Return	19.3%
11. Total Return on Value	112,000
12. Estimated Subsidy Payment (not including rehabilitation)	$117,000

1/ MDH estimates (BN Branchline Account Data not Available).

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

A quick visual inspection of the line was conducted by Roger CREIGHTON ASSOCIATES Incorporated for the MDH during May, 1979. Basically, the line is in satisfactory condition for Class 1 operation with some spot tie renewals considered likely. For Class 2 or 3 operations, spot ballasting and aligning and surfacing would be required along with additional tie renewals. The line consists of 130 pound rail which appeared to be in good condition. Some joint tightening and bolt and joint bar replacement would also be required.

4. FUTURE FREIGHT SERVICE NEEDS

Future freight service needs depend upon the industrial and commercial tenants of the Valley Industrial Park. Both the previous developer and the present corporation have found it difficult to attract industrial and commercial clients, even though favorable long-term lease arrangements are possible. This is particularly true for those potential uses which could generate substantial rail volumes. One major proposal was the siting of a coal-fired electric generating station and a fertilizer plant; this proposal is not currently being promoted since local agreement on the relaxing of air quality standards (from Class 1) apparently cannot be obtained. A modular home manufacturer is presently considering locating at the industrial site; if successful, lumber and gypsum board would probably be brought in by rail. A wholesale lumber dealer is also considering locating in the park. During the construction of the Alaska to Minnesota natural gas pipeline, sizeable quantities of 48 inch pipe will be stored at the industrial park. This, however, is one-time traffic.

Retention of the rail line permits the marketing of park facilities for both light and heavy industrial usage. Loss of the rail line would virtually eliminate any chance of siting firms dependent upon rail usage. From the county perspective, retention of rail access is vital to the initial marketing of existing warehouse structures and other facilities. While it can be argued that the former base is not located in an area conducive to the type of industrial and commercial uses envisioned, the marketing of existing facilities can ill afford to be hampered by the loss of rail access, at least during the next few years. By that point, the long-term needs for rail service can be ascertained on the basis of the needs of tenants attracted to the park and the general character and nature of commercial and industrial activities taking place. It is conceivable that long-term rail freight service might not be required.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

On the basis of present traffic, abandonment of this industrial track would have little effect on state transportation needs. However, this finding is misleading in that abandonment could have a major impact on the transportation needs of prospective tenants of the Valley Industrial Park.

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service is not feasible for this line. Since there is virtually no rail traffic on the line today, the impact of substituting alternate modes would at most be slight.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is served on an as-needed basis by one locomotive (a GP-9) and a four-man local crew operating out of Glasgow. Further service reductions to achieve substantial operating economies do not appear possible.

Consolidation, pooling, or joint use are not feasible on this line.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

No effect on any other rail carrier is anticipated from the abandonment or continued operation of this line.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line, although such action might be considered as a means of preserving rail access to the Valley Industrial Park.

10. FUTURE OF LINE SUBSEQUENT TO THE FEDERAL ASSISTANCE PROGRAM

Calculations made by the MDH using the RSPO costing system indicate that the attributable revenues are less than the avoidable costs. However, this factor is minor compared with the return on investment foregone by continuation of this light density line.

No decision has been made by the Burlington Northern as to whether to seek the abandonment of this line. However, under recent revisions to the Section 803 Program, federal financial assistance is available for enhancing the viability of the line or mitigating the effects of abandonment of this and similar lines. Financial assistance can be used for subsidizing operations, acquisition, rehabilitation, or substitute service. (Projects involving acquisition, rehabilitation, or substitute service are required to be the subject of a benefit-cost analysis resulting in the selection of those projects offering the highest benefits.)

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

No alternatives other than abandonment have been evaluated.

With regard to continued rail service, four traffic scenarios were evaluated:

- No traffic growth.
- Traffic at 100 carloads per year.
- Traffic at 250 carloads per year.
- Traffic at 500 carloads per year.

The results obtained from evaluating the above traffic scenarios are shown on Worksheet VI. The columns of greatest importance are (1) the present value of costs over a four-year period, and (2) the ratio of the cost of discontinuing rail service divided by the cost of continuing such service. The latter is essentially a benefit-cost ratio, which in this case is zero since there are no community impacts of abandoning rail service based on present traffic.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

Although MDH estimates indicate that the present difference between attributable revenues and avoidable costs is only in the

THE MONTANA STATE RAIL PLAN
SERVICE EVALUATION WORKSHEET VI
EVALUATION OF ALTERNATIVE IMPLEMENTATION OPTIONS

Line No. 10 - Glasgow to Glasgow AFB

Alternative	Present Value of Costs[1/] First Quarter	Final Quarter	Total 4 Years	Ratio[2/]
Abandon the Entire Line	0	0	0	
Retain Rail Service				
A. BN Operation (with Present Traffic) w/o Rehab.	34,890	26,896	491,704	0
B. BN Operation (with 100 Carloads/Year) w/o Rehab.	23,507	18,121	331,287	N.A.
C. BN Operation (with 250 Carloads/Year) w/o Rehab.	6,384	4,921	89,970	N.A.
D. BN Operation (with 500 Carloads/Year) w/o Rehab.	(27,244)	(21,002)	(383,963)	3/

1/ Parenthesis indicates revenues exceed costs, hence alternative is profitable. Data source: Worksheet III - Cost of Discontinued Service and Worksheet V - Cost of Continued Service (unpublished material).

2/ This ratio is the cost of abandoning the entire line divided by the cost of each of the continued rail service options. This ratio is analogous to a benefit-cost ratio.

3/ Not applicable, since the line earns a profit for the particular alternative shown.

order of $5,000 per year, this reflects minimal maintenance of way and structures expenditures and no return on the investment. Including an approximate return on investment and a more realistic allowance for maintenance of way and structures, the line would appear to lose around $142 thousand per year with present traffic. Thus, the Department fully appreciates the reasoning underlying BN's desire to eventually seek the abandonment of this line.

The key factor is the long-term traffic potential of the industrial park. Recent institutional changes have somewhat improved the chances that industrial and commercial tenants can be attracted to the industrial park, as compared with the limited success occurring over the past few years. This traffic potential can only be ascertained through the lease of space to commercial and industrial firms during the remainder of 1979 and 1980. Judgments made on the basis of current tenants or the rail traffic generated in 1978 are premature.

The attractiveness of a particular site is a function of its (1) access to markets and (2) labor availability and cost. Considering the market factor first, industries increasingly look for locations to provide quick, easy, and economical access to markets. The characteristics of the highway system, especially a location convenient to the Interstate System, are usually far more important than whether a site has rail access or not. If rail service is required, industry much prefers a mainline location where they can have daily switching as opposed to a location on a light density line with once- or twice-a-week service. Consequently, the Valley Industrial Park does not enjoy a favorable location in terms of competing with similar sites around Billings or Great Falls. With respect to labor, the larger the concentration of highly skilled and professional manpower, the greater will be the opportunity for attracting tenants. Also important is the availability and cost of capital, the presence of an in-place utility infrastructure, the agglomeration of industry, and the external economies that result from the availability or a large variety of specialized supporting supplies and services. In seeking industrial or commercial tenants, the major selling point has to be the availability of buildings and utilities at a relatively low price. Based on the above factors, the Valley Industrial Park, Inc. is already facing an uphill struggle in attracting commercial and industrial tenants. This situation is further complicated by the desire on the part of some local parties to adhere to environmental standards which have the effect of limiting usage of the industrial park to "clean" light manufacturing activities. This, in turn, directly affects the number and type of tenants attracted and the potential amount of rail traffic.

While the Department hopes that the Burlington Northern will not seek the abandonment of this line until the traffic potential of the

industrial park can be better determined, it appreciates and recognizes the railroad's desire to eliminate unprofitable operations and recoup the capital tied up in the track.[1/] The Department further recognizes the importance of maintaining rail access to the industrial park in attracting prospective tenants. Consequently, the following actions are recommended.

1. In the intervening period (until the potential of the line can be established), the Burlington Northern should be relieved of any net cost associated with the line save opportunity cost. While present state law does not permit avoidance of property taxes, Valley County should consider other means for sharing in the cost of the line.

2. If by the end of 1980 it becomes apparent that significant rail traffic is unlikely (say 200 to 400 carloads per year by 1982 of 1983), the Department recommends either (1) purchase of the line by the Valley Industrial Park, Inc. (if retention of rail access is desired by local officials), or (2) abandonment of service on the line. Abandoning service, but, not trackage, would permit the restoration of rail service, if and when traffic develops. The Department would seek federal funds for this purpose only if (1) a favorable benefit-cost ratio could be developed for this project, and (2) sufficient federal funds were available to the state to handle this project (in addition to anticipated projects involving portions of the Milwaukee System). Either Valley County or the Valley County Industrial Park, Inc. would be required to provide the local share.

3. If by the end of 1980 the traffic increases sufficiently to establish probable long-term viability, the Burlington Northern would then agree to remove the line from their system diagram map. If track rehabilitation is required, the Department would agree to seek federal funds for this purpose with either Valley County or the Valley County Industrial Park, Inc. providing the local share.

4. Should the Burlington Northern seek the immediate abandonment of this line, the Department would oppose this action as being premature until the long-term potential of the line is established through lease of the facilities to commercial and industrial tenants.

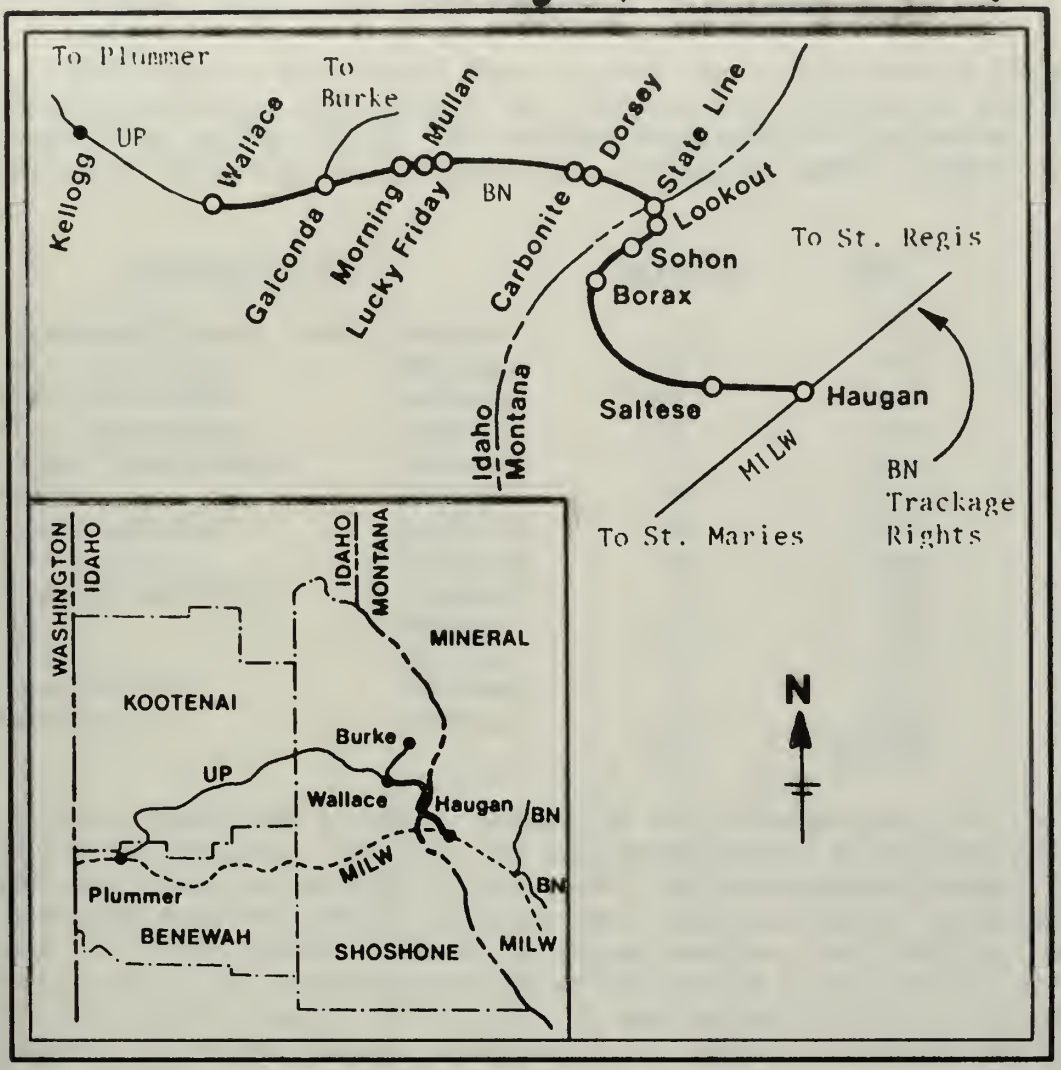
1/ The 130 pound rail and other track materials could be readily utilized elsewhere on the Burlington Northern.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision to oppose any immediate abandonment of service on this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line may have long-term economic viability.
- While the present economic impacts of abandonment are negligible, such action could adversely affect the long-term viability of the industrial park.
- Certain industrial uses contemplated in the past are infeasible without rail access.
- Future action must take into account the type of tenants attracted to the industrial park and their transportation needs.

Line 11 Haugan, MT to Wallace, ID



By application filed May 18, 1978, the Burlington Northern Railroad seeks authority to abandon its 19th Subdivision, Rocky Mountain Division branchline between M.P. 19.57 near Haugan, MT and M.P. 49.07 near Mullan, ID in Mineral County, Montana, and Shoshone County, Idaho, a distance of 29.5 miles, and to discontinue service from M.P. 49.07 near Mullan to M.P. 58.61 near Wallace, Idaho, a distance of 9.54 miles. The segment between Mullan and Wallace would be conveyed to the Oregon-Washington Railroad and Navigation Company and the Union Pacific Railroad without reduction in the rail service currently provided. The line is classified as ICC System Diagram Category 3 (pending abandonment).

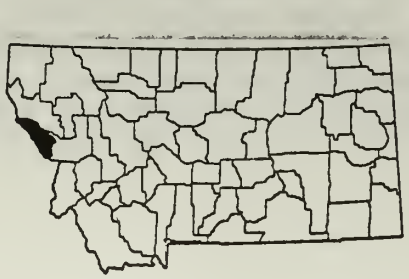
LEGEND

Haugan, MT to Wallace, ID

Other Lines

Freight Station

Other Station



1. FREIGHT TRAFFIC AND CHARACTERISTICS OF SHIPPERS

The seven rail-oriented firms located along this line in Idaho reported receiving 206 carloads and shipping 626 carloads of the following commodities during 1977.1/ All traffic originated or terminated on the Wallace to Mullan portion of the line. Reported traffic either

Commodity Type		Carloads	Tons
Fiberglas(mineral wool)	inbound	9	126
Duct and Tubing	outbound	35	700
Lead Concentrate	outbound	367	17,066
Zinc Concentrate	outbound	15	698
Copper Concentrate	outbound	91	8,145
Propane	inbound	18	1,143
Copper residue	outbound	49	3,773
Iron pyrite	outbound	48	3,696
Granular antimony	outbound	4	240
Coal	inbound	14	770
Limerock	inbound	165	12,375
Concentrate	outbound	5	375
Fertilizer	outbound	12	1,080
		832	50,187

utilized the Mullan to Haugan segment or was interchanged with the Union Pacific at Wallace. The lead and zinc concentrates destinated for the refining plant at Kellogg (392 carloads) was interchange traffic. The fiberglas duct and tubing shipments was, likewise, mainly interchanged with the Union Pacific. Since the copper residue, iron pyrite, limerock, concentrate, and fertilizer either originated or were destined to Montana, the most likely route utilized was the Burlington Northern trackage between Mullan and Haugan. Except for the propane which originates from Pasco, Washington, most of the remaining commodities probably traveled over the Mullan to Haugan segment, given the natural desire of the originating railroad to route traffic as far as possible over its own lines.

Worksheet I summarizes line and shipper characteristics. Rail-oriented firms located on this line include three major mining operations accounting for most of the rail traffic, a manufacturer of fiberglas duct and tubing, two coal dealers, and a propane distributor. A major refiner of lead and zinc ores is located at Kellogg.

1/ Commodity flow data supplied by the shippers located on this line. Burlington Northern records show 575 carloads (50,690 tons) originating/terminating on the Wallace to Mullan segment in 1977 and 562 carloads (47,548 tons) on this same segment in 1976. An additional 288 carloads of cement (21,827 tons) was shipped to Saltese; this traffic was for a highway construction project and, thus is non-recurring. See Exhibits D and E of the Burlington Northern's supplemental environmental evaluation to the abandonment application AB-6 (Sub. No. 51F), May 18, 1978.

THE IDAHO STATE RAIL PLAN

SERVICE EVALUATION WORKSHEET 1

LINE AND SHIPPER CHARACTERISTICS

BRANCHLINE 1 HAUGAN MT (76-87919) - WALLACE ID (76-87957)

********** LINE CHARACTERISTICS **********	ENTIRE LINE	SEGMENT 1	SEGMENT 2	SEGMENT 3
TERMINI NAME	HAUGAN MT WALLACE ID			
LENGTH (MILES)	39.00	0.0	0.0	0.0
ICC CATEGORY	3	0	0	0
SERVICE	1	0	0	0
********** SHIPPER CHARACTERISTICS **********				
NUMBER OF SHIPPERS	8	0	0	0
NUMBER OF EMPLOYEES	3336	0	0	0
EMPLOYEES OF LARGEST SHIPPER*	200	0	0	0
AVERAGE EMPLOYEES PER SHIPPER	417	0	0	0
TOTAL PAYROLL	17656550	0	0	0
PAYROLL OF LARGEST SHIPPER*	3750000	0	0	0
AVERAGE PAYROLL PER SHIPPER	2207068	0	0	0
TOTAL SALES	174039130	0	0	0
SALES OF LARGEST SHIPPER*	18582000	0	0	0
AVERAGE SALES PER SHIPPER	21754880	0	0	0
TOTAL CARLOADS SHIPPED / RECIEVED	686	0	0	0
CARLOADS LARGEST SHIPPER*	382	0	0	0
AVERAGE CARLOADS PER SHIPPER	86	0	0	0
CARLOADS PER MILE	18	0	0	0
YEARLY GROWTH POTENTIAL WITH RAIL SERVICE				
SALES	0.	0.	0.	0.
CARLOADS	0.	0.	0.	0.
TRUCKLOADS	0.	0.	0.	0.
YEARLY GROWTH POTENTIAL WITHOUT RAIL SERVICE				
SALES	0.	0.	0.	0.
CARLOADS	0.	0.	0.	0.
TRUCKLOADS	0.	0.	0.	0.

*Largest shipper in this context means the shipper originating and/or terminating the highest number of rail carloads on this branchline in 1977.

10-22-78

2. REVENUES AND COSTS OF RAIL SERVICE

	Year 1977[1]	Projected Subsidy Year Operations[1]
Attributable Revenues		
1. Freight Originated and/or Terminated On-Branch	$286,649	$ 299,778
2. Bridge Traffic	-	-
3. Demurrage	-	-
4. All Other	9,668	9,668
5. Total Revenues Attributable	$296,317	$ 309,446
Avoidable Costs		
6. Off-Branch Costs	$ 66,503	$ 70,965
7. On-Branch Costs		
a. Maintenance of Way and Structures	82,105	88,006
b. Maintenance of Equipment	41,032	44,059
c. Traffic	-	-
d. Transportation	72,173	78,127
e. Miscellaneous General	-	-
f. Miscellaneous Operations	-	-
g. Fringe Benefits	24,589	26,618
h. Taxes	128	134
i. Rent Income	-	-
j. Rent Costs	-	-
k. Bridge Traffic Rerouting	-	-
8. Total Avoidable Costs	$389,591	$419,180
Return on Value		
9. Valuation of Property		
a. Working Capital	-	14,312
b. Income Tax Benefits	-	64,855
c. Net Liquidation Benefits	-	1,024,374
d. Total	$ -	$1,103,541
10. Rate of Return	- %	19.3%
11. Total Return on Value	$ -	$ 212,983[2]
12. Estimated Subsidy Payment (not including rehabilitation)	$ 93,274[2]	$ 109,734[2] 322,717

1/ Source: Burlington Northern abandonment application AB-6 (Sub. No. 51F), Exhibit I, May 18, 1978.

2/ Out-of-pocket loss (does not include return on value).

3. CONDITION OF PLANT, EQUIPMENT AND FACILITIES

The 19th subdivision of the Burlington Northern's Rocky Mountain Division (a former Northern Pacific Branch) is a single track line over the Bitterroot Range with passing sidings at Saltese, Lookout, Carbonite, Larson, and Mullen. The line runs through mountainous territory which is sparcely populated and subject to heavy snow and adverse weather conditions in the winter. Maximum speeds are 25 mph between Wallace and Haugen with a 15 or 20 mph limit when ascending or descending to/from Lookout Pass. The maximum ruling gradient is four percent in addition to frequent horizontal curves.

The Burlington Northern has not estimated any deferred maintenance or rehabilitation cost. According to the railroad, the track presently meets FRA Track Class I safety standards. Rail consists mainly of 90 pound rail with some stretches of 100 and 112 pound rail, the latter being installed in the 1960's and 1971. Ties are considered to be in fair condition, although the Burlington Northern expects that numerous replacements of soft wood ties will be required over the next decade.

This line was not inspected by the MDH. Based on information received from the Burlington Northern, rehabilitation would not be required for the continued operation of this line (some localized tie replacement might be required, however).

4. FUTURE FREIGHT SERVICE NEEDS

Continued rail service to existing mines in the Wallace area is absolutely essential if the mining and marketing of lead, zinc, copper and silver ores are to continue. Retention of the line between Haugan and Mullan is not required provided that alternate arrangements can be made with the Union Pacific to continue rail service on the portion of the line between Mullan and Wallace. Failure to provide rail service would lead to the closure of mines resulting in major layoffs in an already economically depressed portion of Idaho. The products produced can only move to their markets by rail. Assuming the Union Pacific does acquire this line, the impacts of abandonment would largely be eliminated. Initial economic, environmental, and transportation impacts are shown on Worksheet II.

5. EFFECTS OF ABANDONMENT ON STATE TRANSPORTATION NEEDS

Abandonment of this section would have no effect on Montana transportation needs.

THE IDAHO STATE RAIL PLAN

SERVICE EVALUATION WORKSHEET II

INITIAL IMPACTS

BRANCHLINE 1 HAUGAN MT - WALLACE ID

********** ECONOMIC IMPACTS **********	ENTIRE LINE	SEGMENT 1	SEGMENT 2	SEGMENT 3
WAGE & SALARY LOSS ($ PER YEAR)	0	0	0	0
TRANSPORT COST INCREASE ABSORBED LOCALLY ($ PER YEAR)	0	0	0	0
TOTAL TRANSPORT COST INCREASE ($ PER YEAR)	0	0	0	0
UNEMPLOYMENT PAYMENTS ($ PER YEAR)	0	0	0	0
LOSS IN LOCAL PURCHASES BY BUSINESSES ($ PER YEAR)	0	0	0	0
TAX LOSS ($ PER YEAR)	0	0	0	0
OTHER COSTS ($ PER YEAR)	0	0	0	0
********** ENVIRONMENTAL & ENERGY IMPACTS **********				
ADDITIONAL TRUCK TRIPS PER DAY	0	0	0	0
ADDITIONAL TRUCK MILES PER DAY	0	0	0	0
ADDITIONAL GALLONS OF FUEL CONSUMED TRUCK	0	0	0	0
RAIL	0	0	0	0
ADDITIONAL POLLUTANTS(LBS)				
NITROGEN OXIDES	0	0	0	0
CARBON MONOXIDE	0	0	0	0
HYDROCARBONS	0	0	0	0
CRITICAL NOISE IMPACT (Y/N)	N			
********** OTHER IMPACTS **********				
PRIMARY JOBS LOST	0	0	0	0
SECONDARY JOBS LOST	0	0	0	0
LOCAL OUTMIGRATION	0	0	0	0
CRITICAL BRIDGE IMPACT (Y/N)	N			
CRITICAL HIGHWAY IMPACT (Y/N)	N			

6. IMPACTS OF SUBSTITUTING ALTERNATE RAIL OR OTHER MODES

Alternate rail service by the Union Pacific is a highly viable solution, provided that the Burlington Northern does sell or transfer its existing trackage between Wallace and Mullan to the Union Pacific. Based on present demands, reliable service by one carrier is far more important than retention of competitive service by two railroads. The Oregon-Washington Railroad and Navigation Company and the Union Pacific Railroad have agreed and have made application to the ICC to acquire and operate the Burlington Northern trackage between Wallace and Mullan upon ICC approval of abandonment and discontinuance of service by the Burlington Northern.

Substantial railroad efficiencies and savings will be obtained by conveying the Wallace-Mullan segment to the Union Pacific without reduction in the rail services currently provided. The Union Pacific will acquire additional revenues to offset the additional transportation and maintenance costs, while the Burlington Northern will save on maintenance costs plus being able to recoup assets tied up in lightly used trackage.

7. METHODS OF ACHIEVING ECONOMIES IN LINE OPERATIONS

This line is presently served once a week on a scheduled basis by two locomotives and a four-man local crew operating out of Missoula. Further service reductions to achieve substantial operating economies can only be achieved by discontinuing competitive rail service. Thus, a consolidation of operations is a feasible solution.

8. EFFECTS ON OR BY PROFITABLE CARRIERS

Acquisition and operation of the Wallace-Mullan segment by the Union Pacific should strengthen the viability of the railroad's Wallace Branch.

9. POTENTIAL FOR RAIL BANKING

No rail banking is anticipated for this line.

10. FUTURE OF LINE SUBSEQUENT TO THE FEDERAL ASSISTANCE PROGRAM

No calculations have been made by the MDH to determine whether the attributable revenues derived from operation of the Wallace-Mullan segment by the Union Pacific substantially exceed avoidable costs.

Acquisition of the Wallace-Mullan portion of the line by the Union Pacific would eliminate any anticipated need for federal financial assistance.

11. DESCRIPTION OF ALTERNATIVES EVALUATED: RESULTS

Given the proposed acquisition by the Union Pacific, different scenarios for continued operations have not been evaluated.

12. OVERALL LIGHT DENSITY LINE ASSESSMENT

No economic need exists for retaining the rail line between Haugan, MT and Mullan, ID. Consequently, the Department concurs in the abandonment of this line provided that the segment of the line between Wallaceand Mullan is conveyed to the Union Pacific concurrent with abandonment and that rail service is continued to present users without interruption. The consolidation of the proceedings in Finance Docket No. 28759 and Docket No. AB-6 (Sub-No. 51F) by the ICC on October 4, 1978, are a necessary step in assuring the orderly transfer and continuation of rail service necessary to support local economic activity.

13. RELATIONSHIP OF DECISION TO EVALUATION CRITERIA

The decision not to oppose abandonment of service on the Haugen, MT to Mullen, ID portion of this line is based on the following criteria given in the revised Montana Planning Work Statement, dated June, 1979.

- The line does not have potential economic viability.
- The economic impacts of abandonment are small.
- Little community impact would result from abandonment.
- Abandonment causes only very small changes in energy use and environmental factors.
- The line is not essential to the state or regional rail network.